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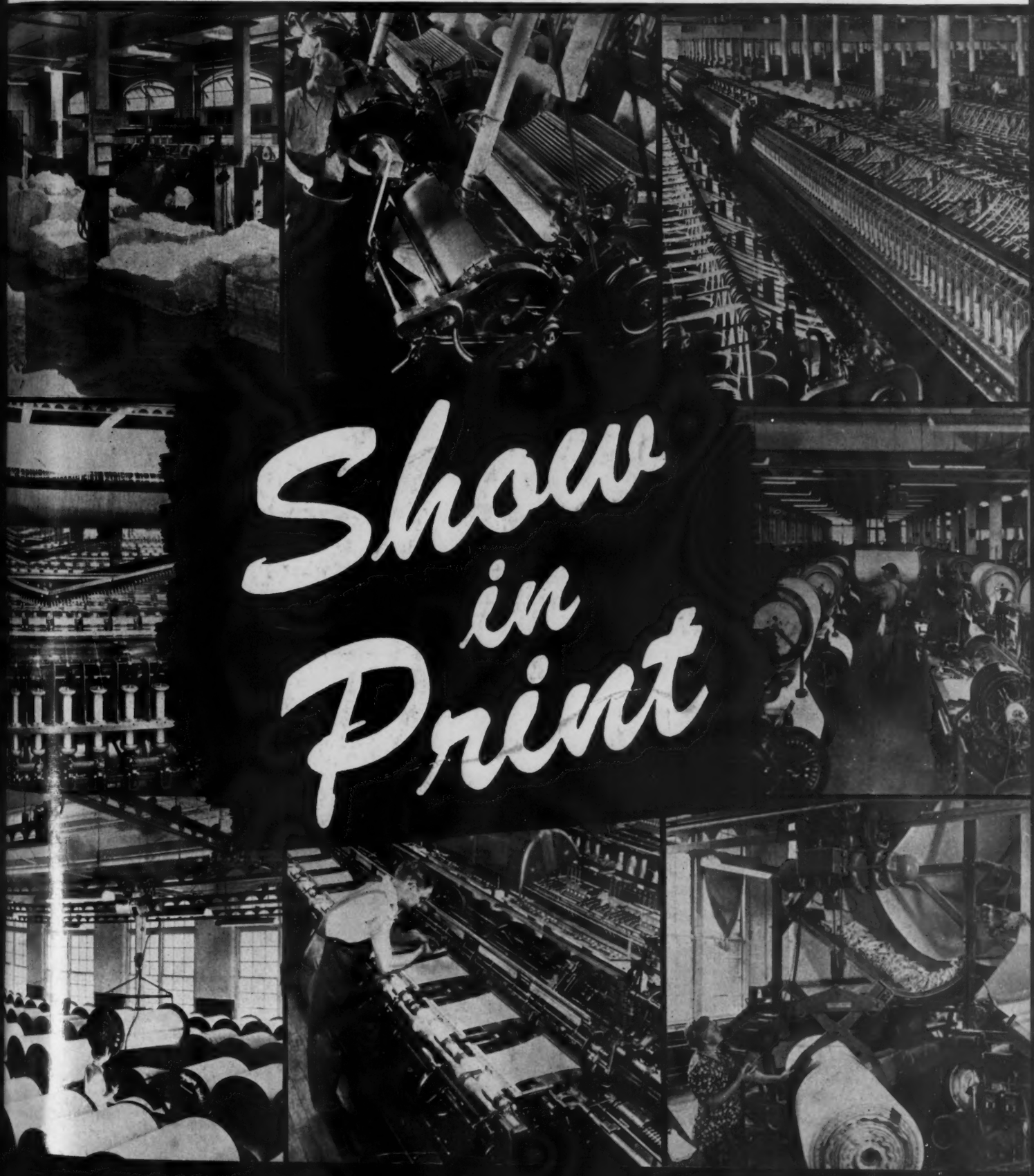
TEXTILE WORLD

A McGraw-Hill Publication ---------- MARCH • 1946



Commercial FACTORING

More and more, the word "COMMERCIAL" is recognized as the "distinguishing mark" in factoring. It is the symbol of long experience, complete facilities and resources, and a knowledge of every branch of the textile industry.

We will gladly explain in detail what *COMMERCIAL FACTORING* can mean to your business in new opportunities and increased profits.

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Established 1828

Schefer, Schramm & Vogel
Established 1838

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Established 1893

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T. HOLT HAYWOOD, WINSTON-SALEM, NORTH CAROLINA

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Super High Speed Looms

GET READY

Are you preparing proper operating conditions for your New Super High Speed Looms?

Check List for Mill Executives

- ☐ Loom stoppage Tests on your Present Looms
- ☐ Humidity and Temperature Controls
- ☐ Slasher Operating Conditions—Particularly Automatic Controls
- ☐ Yarn Quality—Check Stoppage Test Report
- ☐ Uniform Filling Packages
- ☐ Training Loom Fixers

GET THE FACTS—To Point the way to Improved Methods and Increased Production

Let's Talk It Over

Series X

DRAPER CORPORATION
Hopedale Massachusetts

MEMO:
TO PLANT OPERATORS

use "Bicarb"— for faster, simpler, safer caustic removal

Compare!

	step 1	step 2
the "BICARB" way	Add "Bicarb"—caustic completely converted — hot wash safe.	NONE
the ACID way	Add acid—reaction then acid — cold wash.	Add soda ash—reaction alkaline—then wash (hot wash may now be safely used).

TIME WITH "BICARB"

TIME WITH ACID

Mathieson
CHEMICALS

THE MATHIESON ALKALI WORKS (INC.)
60 East 42nd Street, New York 17, N. Y.

Bicarbonate of Soda . . . Caustic Soda . . . Soda Ash . . . Liquid Chlorine . . . Chlorine Dioxide . . . Ammonia, Anhydrous & Aqua . . . HTH Products . . . Fused Alkali Products . . . Synthetic Salt Cake . . . Dry Ice . . . Carbonic Gas . . . Sodium Chlorite Products . . . Sodium Methylate

A MATHIESON DEVELOPMENT

Faster, simpler, safer than acid, bicarbonate of soda effectively removes caustic by changing it into sodium carbonate or soda ash.

Originated and commercially developed by Mathieson Research, this process offers certain definite advantages:

- acid resistant equipment not required.
- hot wash safe.
- production speeded by elimination of additional steps necessitated by acid process.
- careful chemical control unnecessary.
- no health or other hazards involved

These advantages, plus new ones stemming from intensive research, may hold important meaning for you—may bring to light possibilities you haven't thought of.

While complete details for the utilization of this process have been evolved specifically for textiles, Mathieson Research is prepared to carry out further assignments in other fields.

For best results, consult our Technical Staff in regard to adapting this new Mathieson development to your particular operations. Write for further information.

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Cover photograph by Coze of Greenville.

THE *Long-Range* VIEW

STOP THE SLOW-DOWN

We hear so much talk about workers slowing down in other industries that we might well look to our own to see if the same thing is not happening in textiles.

Leaders in the manufacture of chemicals have privately stated that worker-efficiency is definitely down; and, on a large construction job, units handled by one group of men is now 500 a day, whereas prewar 1500 to 2000 were handled. In other fields, it is suspected that worker efficiency has fallen off; but differences in the type of work being done make direct comparison difficult.

"Workers are tired," is a statement frequently heard. Perhaps they are. One company which had to reduce the number of hours per week 20% found that production per worker went up approximately 25%, but that company felt the reason was desire of the operators to maintain their take-home pay. Instead of supporting the "workers are tired" theory, this example seems to indicate that production formerly represented a slow-down, probably an unintentional one. We are not losing sight of the belief we have long held that when hours are unusually long, say ten or more per day, the problem is more one of the employee being able to last out the day than one of his getting high production.

With much of the textile industry now working hours no longer than before the war, the "tiredness" of workers can hardly be physical and evidently is psychological. Undoubtedly, employees reflect the attitude of their supervisors, top management, and contemporaries. There is a lack of stimulation all along the line—there is little urge to make money, no longer any war-inspired drive, too much dependence on solution of problems by the government or by forces outside the individuals.

Often slow-down is not readily evident, particularly in textiles. For example, suppose that a winding production has long been based on 200 lb. per day per operator. The operator may actually now be producing over 200 lb. but still, in effect, slowing down if, for example, she is now running only one lot or kind of yarn whereas formerly she ran several, or if coarser cleaners are used and the yarn breaks less often, or if larger supply or take-up packages are used, or if a number of other possible changes have occurred.

Eliminating unintentional as well as willful slow-down is one way by which we can obtain more textile production with the facilities now on hand. At the same time, such action will be beneficial in the years of keen competition which are ahead.

The first step in eliminating slow-down is to measure and to know what constitutes a particular job and a fair day's work. When both have been decided, a written record should be made and a rate set up which will be guaranteed until such a time as the recorded elements change. Another step is the elimination of long hours of work as a regular method of operation. A third step might be the giving of incentives beyond a guaranteed unit rate; the problem here is to use incentives other than money, if possible, since the value of money is certainly at a low ebb. Recognizing the pride a person takes in his work is a good but little-used incentive.

Regardless of what is decided upon to eliminate slow-down, it must be well thought out in advance and not only clearly presented but also, which is more important, followed through conscientiously. Hit-or-miss efforts to improve efficiency consistently fail and often cause undesirable reactions, especially if they follow radically new lines. Even a program that has been carefully planned may arouse unpredictable reactions; and, unless some means for following up and acting quickly are devised, the results may be worse than if the program had not been started. An example of a dangerous program is a suggestion system that does not include some means for taking suitable action promptly on every suggestion submitted.

The safest, quickest course to follow in combatting slow-down is to follow one already established. Most plants have some procedure more or less in effect now to measure work loads. Such existing facilities probably can be used at once to start eliminating slow-down and to act as the nucleus of a more effective program.

More simplified lines, elimination of unnecessary frills, more mechanization, and other changes should mean higher productivity per worker now than ever before. We cannot be satisfied with less or even the same production at a time like this when textiles are badly needed and higher wages must be justified by higher output or else higher wages are a farce.

C. H. Bendigo

An "Inside" Tip on better V-Belt performance

HERE you see the "inside" reason why Goodyear's time-proved E-C Cord Multi-V Belt is the standout cotton cord belt for high-efficiency performance and long life. Note the large diameter of the tough, endless, heavy-duty cord that sinews this great belt. Comparatively speaking, it is truly ropecord—high in tensile strength and stretch resistance.

This Goodyear-pioneered construction makes it possible to concentrate the load-carrying cord in the neutral section—where it is not subject to either extreme tension or compression in bending around the pulleys. Thus the entire strength of the cord is employed in pulling the load—not sapped by internal friction, buckling or distortion. Every cord does its full share of work.

Add to this the precision-matching that insures uniform length in every set and it is easy to see why Goodyear E-C Cord belts are the best-balanced belts you can buy for multi-V drives. Every cord in every belt pulls its full share of the load, insuring longer life and maximum power output. Order from your V-belt jobber, or write Goodyear, Akron 16, Ohio, or Los Angeles 54, California.

Get the RIGHT BELT for every drive

GOODYEAR also makes a complete line of flat transmission belting designed to handle the most difficult drives in the textile industry—cone, pivoted base, line shaft and for heavy duty service on vertical openers, compressors, cards, generators, winders, pickers and balers. For better belt performance, consult the G.T.M. — Goodyear Technical Man.

E-C Cord—T.M. The Goodyear Tire & Rubber Company

FOR HOSE, BELTING, MOLDED GOODS, PACKING built to the world's highest-quality standard, phone your nearest GOODYEAR INDUSTRIAL RUBBER PRODUCTS DISTRIBUTOR.

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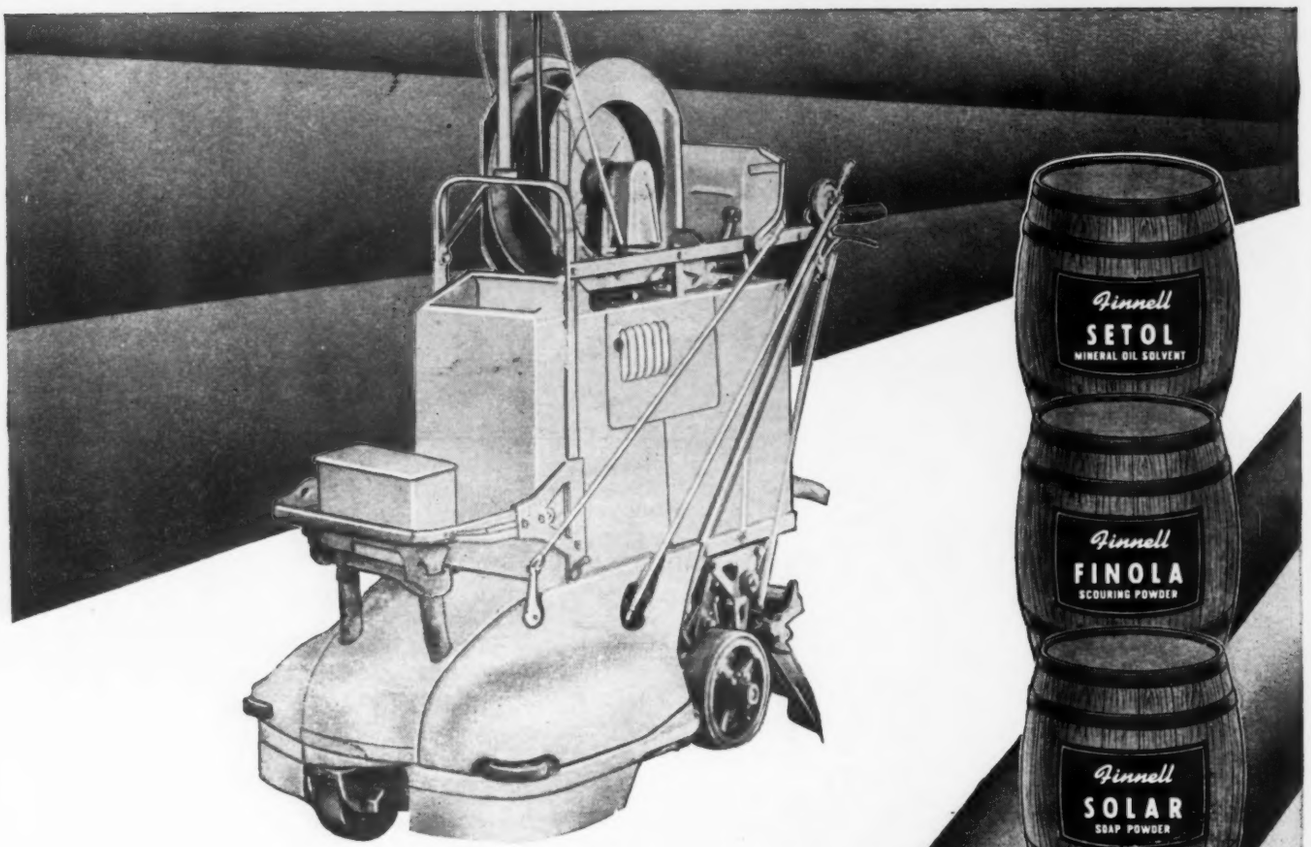
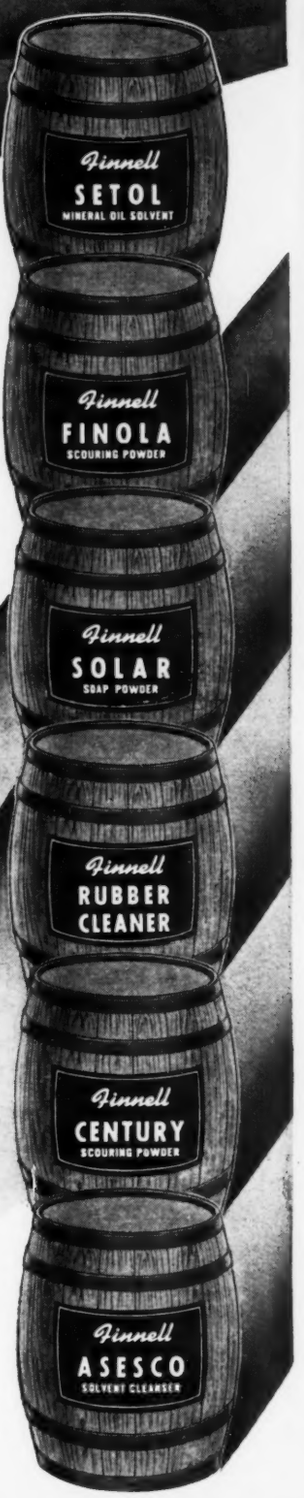
GOODYEAR





YOUR SCRUBBING MACHINE IS *AS OLD AS ITS MILEAGE!*

So don't waste the mileage of your machine by using slow-acting cleansers. They necessitate prolonged brush action . . . pile up mileage needlessly. Thus the importance of choosing cleansers that keep pace with the speed of machine-scrubbing. *Finnell Cleansers* do—and should—since they're *specially compounded for the purpose.* Their chemical action is *instantaneous!*

Finnell Cleansers are products of *Finnell's own powder mill,* and each serves specific needs. *Setol:* An oil emulsifier for use on mill and factory floors. *Finola:* A scouring powder for heavy duty scrubbing of smooth, hard surface floors and some wood floors. *Solar Soap Powder:* For use wherever a good *soap* powder is required. *Finnell Rubber Cleaner:* For all types of rubber flooring. *Century Scouring Powder:* A mild abrasive cleanser. *Asesco:* An oil emulsifier and water softener. Containers range from 5-lb. bags to 300-lb. barrels.

For consultation or literature, phone or write nearest *Finnell* branch or Finnell System, Inc., 1903 East Street, Elkhart, Indiana.

FINNELL SYSTEM, INC.

Pioneers and Specialists in

FLOOR-MAINTENANCE EQUIPMENT AND SUPPLIES

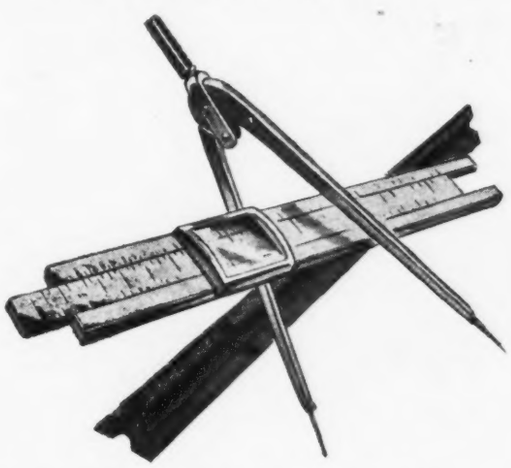
BRANCHES IN ALL PRINCIPAL CITIES

Ever Figure What a 765 hp Motor Throws Off in Heat?

Our Navy Did... on fleet tugs down in the tropics, where engine room temperatures were running high as 140°F! In 25 by 30 ft of space, that's like having 140, thousand-watt radiant heaters "raising blisters" on you all at one time!

Here's How Navy Figured: To get 765 shaft hp out of 94% efficient propulsion motors, of which there are four aboard, they were putting in about 812 hp of electrical energy. Or, 47 hp went in that didn't come out of the shaft, but escaped through the frame. This ran about 35 kw heat per motor.

Well, Our Temperatures Began To Rise when Navy laid down its 'specs'. "Design a marine water-cooled motor—make it fit into the floor space of your open drip-proof type—no major changes in ship design. Make it extra-dependable, as fireproof as practicable".



We Measured, and figured, and made designs—used a new, toxic gas-free Glass Melamine insulation that required extensive changes in design and fabrication. We put special air passages inside the motor—yet kept accessibility. We saved 25% space over our previous commercial marine design by figuring a special shape cooler—without cutting down cooler efficiency.

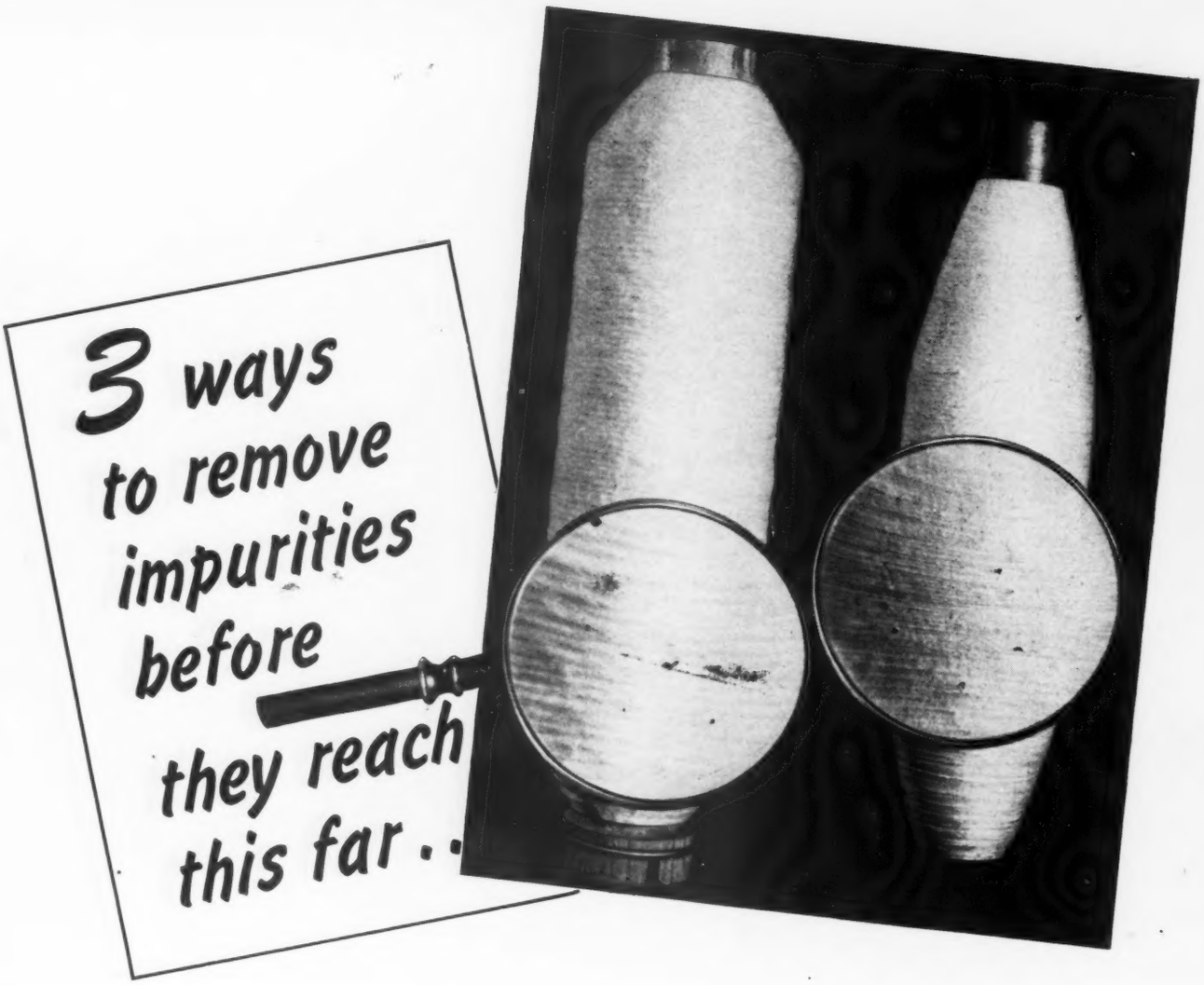
Then We Made Those Motors Shock-Proof — by cutting out all cast iron, re-designing structural members for greater strength, resorting to modern, proven fabrication throughout. Result: A new kind of water-cooled motor that put a "tough" Navy job on ice, and also proved a point! A 1999

There's a Point to this story: Every time Allis-Chalmers engineering discovers new ways of solving *special* motor problems, like this one, it also learns how to build better *standard* motors for you! Watch for these new and better motors from A-C. ALLIS-CHALMERS, MILWAUKEE 1, WIS.

Wait 'til you see the NEW

ALLIS-CHALMERS MOTORS!

HEAR THE BOSTON SYMPHONY: *Every Saturday Evening, American Broadcasting Co.*



1 #11 DUST AND WASTE EXTRACTOR

2 CONTINUOUS STRIPPER

3 WASTE CONTROL SCREEN

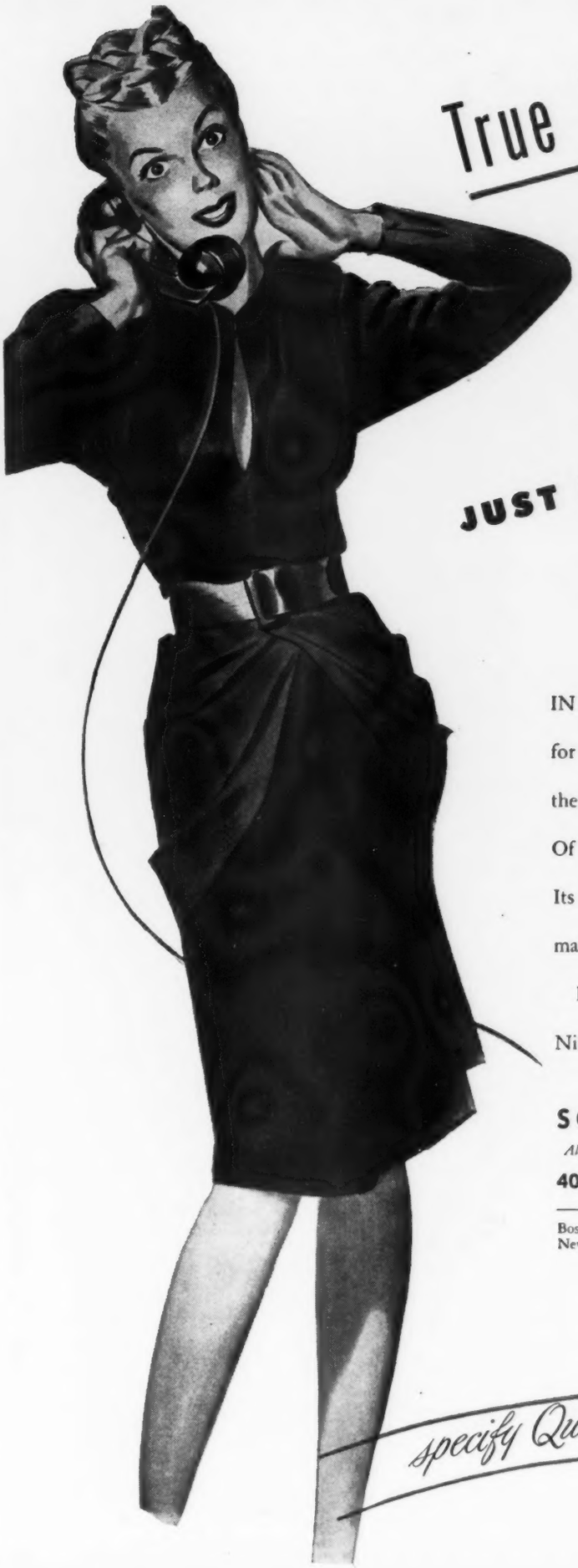
The complete elimination of every single impurity in a finished yarn package is an achievement to be desired. But many of the impurities which do get through can be eliminated if proper steps are taken at certain strategic points.

The Saco-Lowell #11 Dust and Waste Extractor is the first point of attack against these minute particles. Here the great bulk of fine peppery leaf and dirt is removed. The next point of attack is at the card. Here, by using a "combat team" composed of the Continuous Stripper and the Waste Control Screen, it is possible to keep the cylinder wire in such an active condition that there is a definite reduction in the amount of nep, leaf and other impurities in the web.

As a means of estimating the amount of impurities that are now "getting by" we suggest you make a nep and leaf count on ten square inches of cloth. Should you find this count too high our engineers may be able to make some helpful recommendations.

Saco-Lowell Shops

BOSTON, MASSACHUSETTS · Charlotte · Greenville · Atlanta



True Blues... without the "blues"

JUST USE SOLVAY SODIUM NITRITE

TRADE MARK REG. U. S. PAT. OFF.

IN THE PREPARATION OF AZO dyes of any color of blue for cotton, rayon or silk, SOLVAY Sodium Nitrite gives you the best possible results . . . and color fastness at minimum cost. Of U.S.P. Grade, this fine crystal tends to remain free-flowing. Its high quality and purity were expressly developed for the making of azo dyes and for fine textile dyeing.

For color-right quality dyes, specify SOLVAY Sodium Nitrite. It is the choice of dyers of fine fabrics.

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specify Quality... specify SOLVAY

the
RED
ELASTIC
COLLAR
protects
permanently
the RED ELASTIC COLLAR — denoting an ESNA product — is . . .
. . permanently clinched to prevent turning under application and subsequent operational stresses.
. . permanently secure against vibration effects. The bolt impresses does not cut) full contact threads.
. . . permanently tight against moisture. Bolt threads have 100% contact in collar and are fully seated in metal
permanently elastic. The Red Collar retains its grip after repeated usage.

What happens when this Red Elastic Collar becomes part of a nut? The nut becomes an ESNA Elastic Stop Nut! And it provides permanent protection for any detachable or adjustable assembly.

How?

First, an Elastic Stop Nut *locks in position anywhere on a bolt or stud.* Every bolt can be precisely prestressed to carry its full load. Positioning devices can be adjusted with precision. Vibration cannot disturb these settings — because the Red Elastic Collar eliminates all play between bolt and nut threads with its full contact, permanent grip.

Second, it *prevents thread corrosion.* Moisture is sealed out. Adjustment or removal is easy — any time.

Third, it *prevents thread damage.* Full thread contact in the Red Elastic Collar keeps the metal threads firmly seated. Axial play caused by vibration or stress reversal is dampened.

Fourth, it *prevents seepage of liquids past bolt threads.* Permits nut to be used as a sealing device.

Fifth, it *prevents maintenance waste.* The Red Elastic Collar, which does not injure the bolt or its plating, permits repeated usage.

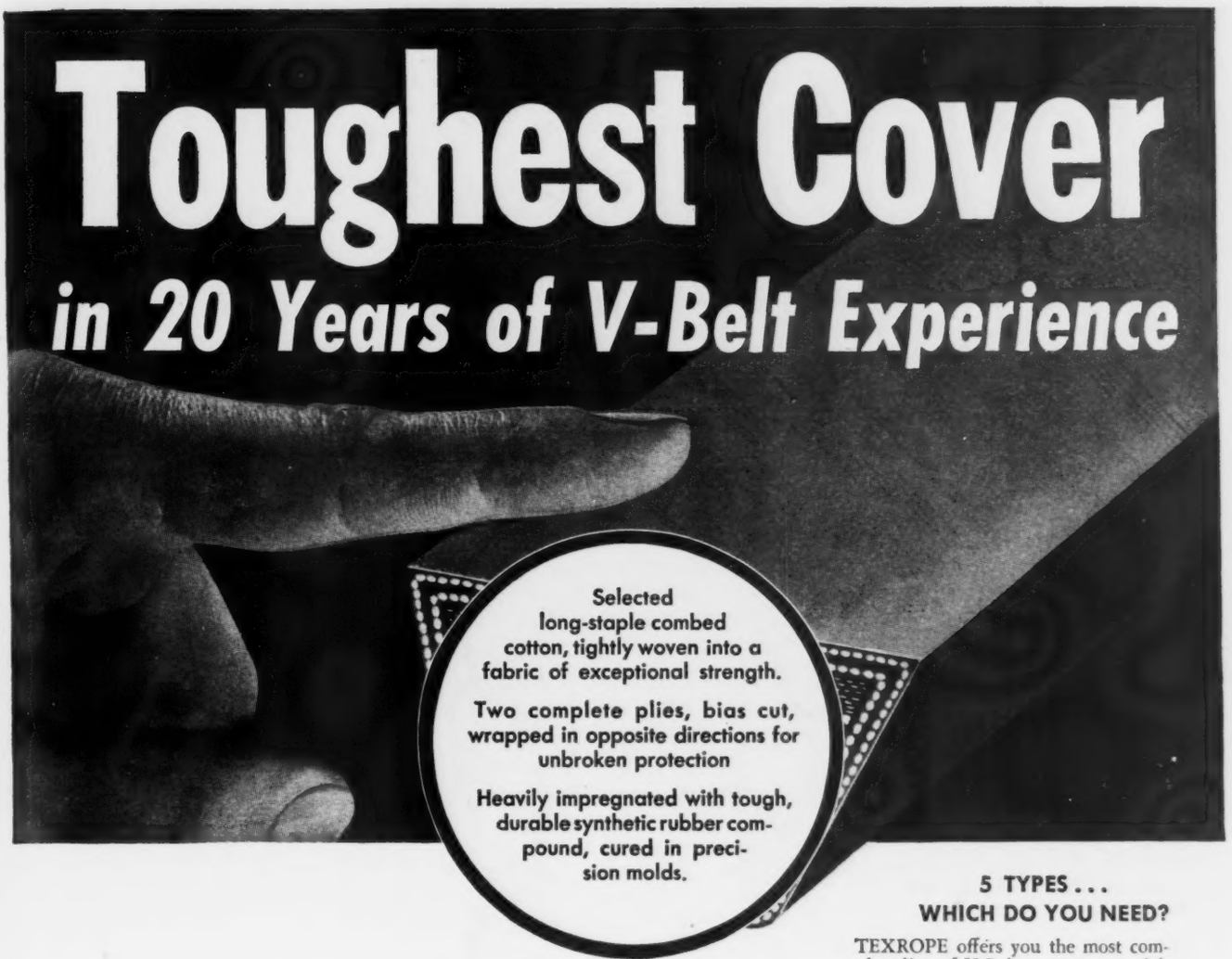
Here's a challenge: Send us complete details of your toughest bolted trouble spot. We'll supply test nuts — FREE, in experimental quantities. Or, if you want further information write for literature. Elastic Stop Nut Corporation of America, Union, New Jersey. Representatives and Agents in principal cities.

ESNA

ELASTIC STOP NUTS

PRODUCTS OF: ELASTIC STOP NUT CORPORATION OF AMERICA

Toughest Cover
in 20 Years of V-Belt Experience


Selected long-staple combed cotton, tightly woven into a fabric of exceptional strength.
Two complete plies, bias cut, wrapped in opposite directions for unbroken protection
Heavily impregnated with tough, durable synthetic rubber compound, cured in precision molds.

Allis-Chalmers Builds Longer Life Into Famous TEXROPE V-Belts

A V-Belt is no better than its COVER. And . . . TEXROPE Super-7 belts today carry the toughest, most wear-resistant cover that Allis-Chalmers has developed since they invented the Multiple V-Belt Drive! It's the result of 20 years of continuous research and improvement.

This tough, resilient sheath is unbroken and unweakened by grooves or serrations. It takes the wear, holds the belt in shape, protects the load-carrying core structure.

Added Strength — Smoother, Cooler Running

50% Stronger Cords, impregnated with friction-fighting gum rubber. *War-proved Buna-S,* better, cooler-running than natural rubber. *Perfect Balance,* every belt accurately proportioned, precision molded to run true and cool. Make Allis-Chalmers your V-Belt headquarters! ALLIS-CHALMERS, Milwaukee 1, Wisconsin.

A 2003

5 TYPES . . . WHICH DO YOU NEED?

TEXROPE offers you the most complete line of V-Belts — types specially developed to meet ALL operating conditions. Pick the right TEXROPE Super-7 V-Belt — it'll give you the most in efficient power transmission.

Heat-Resisting Super-7
Stands temperatures up to 180°. The TEXROPE V-Belt for most drives.

Oil-Resisting Super-7
Neoprene cover protects core against moderately oily or greasy conditions.

Oil-Proof Super-7
Made of Neoprene throughout. Use it when the belt must swim in oil.

Static-Resisting Super-7
Recommended where explosion hazard exists. Static-conducting element throughout cover won't wear off.

Super-7 Steel
Twin steel cables, to pull extremely heavy loads with minimum stretch.

GET THEM — through your Allis-Chalmers district office or dealer.

TEXROPE Super-7 V-Belts result from the cooperative research of two great companies—Allis-Chalmers and B. F. Goodrich — and are sold exclusively by A-C.

V-BELTS
TEXROPE complete line — Sizes, types for every power transmission problem and condition.

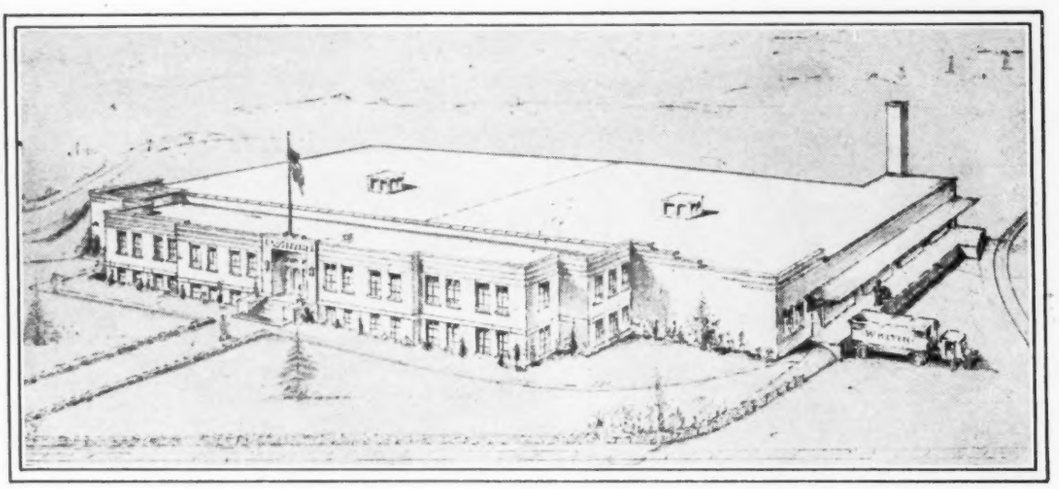
ALLIS CHALMERS
TEXROPE V-BELT DRIVES
ORIGINATORS OF THE MULTIPLE V-BELT DRIVE

SHEAVES
"MAGIC-GRIP" . . . TEX-STEEL . . . TEXDRIVE . . . Speed changers and VARI-PITCH sheaves.

HEAR THE BOSTON SYMPHONY: *Every Saturday Evening, American Broadcasting Co.*

Announcement ★ ★

TO OUR SOUTHERN FRIENDS AND CUSTOMERS



Architect's drawing of our new office and plant at Charlotte, N. C.

WE are happy to announce that construction is now underway of a new building in Charlotte, North Carolina, to house our Charlotte Sales Offices and Southern Repair Shop.

Our present quarters which have served as the home of the repair shop since 1932 have been found to be inadequate to handle an ever-increasing volume of business. Three times our present floor space will be available in the new building. A large variety of modern machine tools will enable us to give you faster, more efficient repair service. Increased capacity, plus modern equipment, plus skilled workmen, will represent a definite improvement in the service which we shall be able to offer to all users of Whitin equipment in the Southern area.

WHITIN MACHINE WORKS

WHITINSVILLE • MASSACHUSETTS

CHARLOTTE, N. C. **ATLANTA, GA.**

THEY'RE ROLLING throughout your plant—hundreds of ball-bearings like this. As they speed 'round their raceways, your machines speed with them. If they wear out and stop, your production stops, too.

That's why it's so important to make sure that they are protected by superior lubricants — by Gargoyle Greases BRB. These carefully compounded greases form strong films over highly polished surfaces for maximum protection against wear, rust and corrosion. They resist oxidation and separation, seal out impurities and reduce leakage to a minimum.

Two grades of Gargoyle Greases BRB are customarily used for anti-friction bearings . . . No. 3 for all ball and roller bearings operating under normal conditions . . . No. 4 for anti-friction bearings at high temperatures or high speeds.

See your Socony-Vacuum Representative for counsel on the correct grades for your bearings.

Get this Complete Lubrication Program for all your machines

- Lubrication Study of Your Entire Plant
- Recommendations to Improve Lubrication
- Lubrication Schedules and Controls
- Skilled Engineering Counsel
- Progress Reports of Benefits Obtained

GARGOYLE Lubricants

Socony-Vacuum Oil Co., Inc.

And Affiliates: Magnolia Petroleum Co., General Petroleum Corp. of Calif.

TUNE IN "INFORMATION PLEASE" MONDAY EVENINGS, 9:30 E.S.T.—NBC

1. Resloom* NC-50

. . . a melamine resin monomer, projected into the heart of the individual fibers, and polymerized there by heat.

In various concentrations it accomplishes two basic, important improvements in textiles:

a. *Stabilizing* cotton shirtings, rayons, rayon tropicals, mixed rayon-cotton-wool, etc. . . . thus providing improved retention of strength, color and dimension after repeated washings . . . plus a soft, resilient, quality finish.

b. *Glazing* chintz . . . for improved washability, better stability and hand. Adaptable to different formulae with minimum chlorine pick up, and with practically no change in fabric strength.

*Reg. U.S. Pat. Off.

2. Syton* W-20

. . . a highly modified silica dispersion in water. As fabrics are dipped in the Syton solution the tiny fibrils penetrate the fibers leaving there a continuous deposit that:

a. Controls slippage — by increasing the interfacial friction between fibers.

b. Imparts a crisp, quality finish

c. Increases body of light goods

d. Provides a delustered appearance

Syton requires no special equipment, heat, no after treatment and is compatible with other finishing agents, dyestuffs and resins.

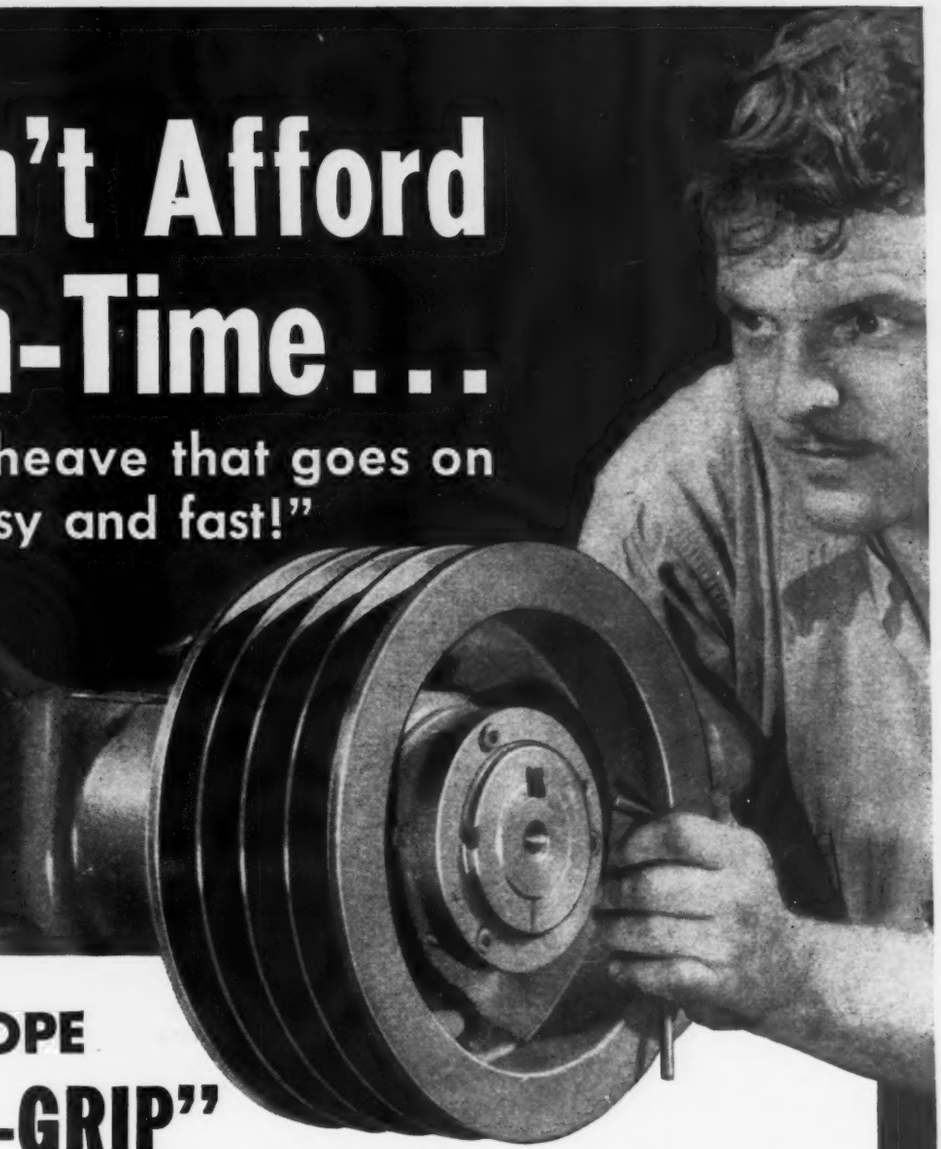
For complete technical data on these Monsanto textile chemicals, now available in commercial quantities, address: MONSANTO CHEMICAL COMPANY, Everett Station, Boston 49, Massachusetts.

The Textile
SERVING ∧ INDUSTRY . . . WHICH SERVES MANKIND

MONSANTO
CHEMICALS AND PLASTICS

"I Can't Afford Down-Time . . .

I need a sheave that goes on and off easy and fast!"



TEXROPE "MAGIC-GRIP"

. . . Fastest Mounting Sheave Ever Made!

Saves manhours . . . this improved sheave with "Magic-Grip" bushing comes completely assembled. You slide it on the shaft to exact position, tighten three cap screws — and it grips like magic. No filing or scraping, no hammering. And it comes off just as easily!

More advantages: "Magic-Grip" sheave *mounts close to the motor.* Less overhang, less vibration, less strain on bearings. *Clamp fit can't damage shaft.* No wobble, shear or backlash.

You get these advantages without increase in prices! See "Magic-Grip" sheaves — at your nearest A-C district office or dealer. For literature, write to ALLIS-CHALMERS, Milwaukee 1, Wisconsin.

A 2004

V-BELTS

TEXROPE complete line — Sizes, types for every power transmission problem and condition.

ALLIS CHALMERS

TEXROPE V-BELT DRIVES

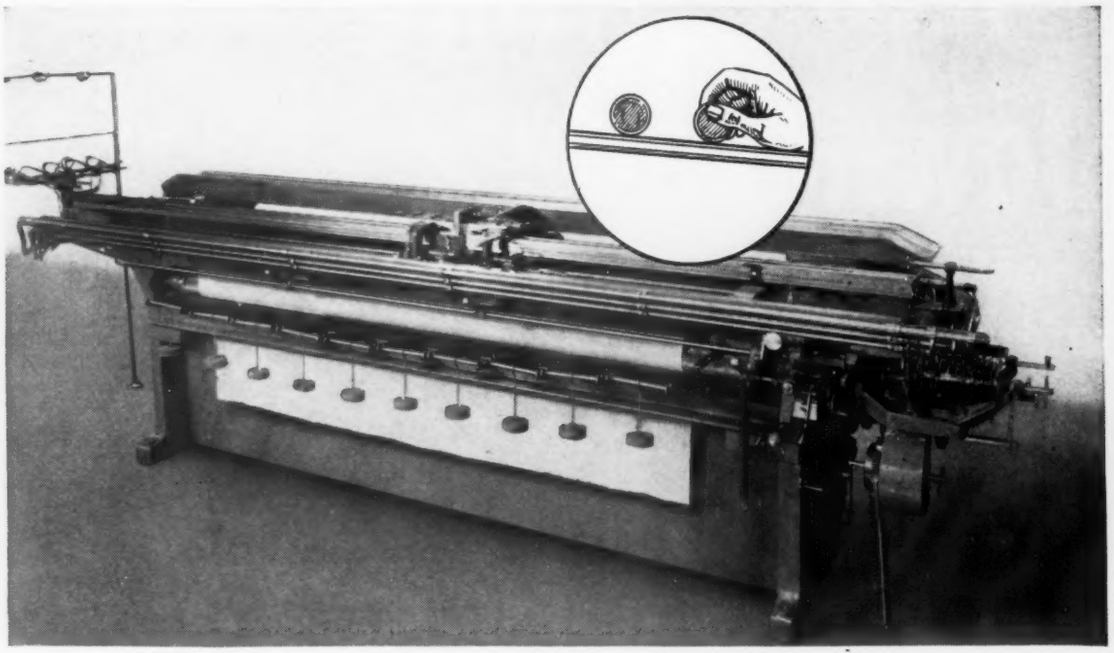
ORIGINATORS OF THE MULTIPLE V-BELT DRIVE

SHEAVES

"MAGIC-GRIP" . . . TEX-STEEL . . . TEXDRIVE . . . Speed changers and VARI-PITCH sheaves.

HEAR THE BOSTON SYMPHONY: *Every Saturday Evening, American Broadcasting Co.*

FLAT KNITTING MACHINES



The Purl Stitch Machine

Designed by L. Robaczynski and accepted throughout the world as the standard machine for this type of knitting.

NEW VERSATILE HIGH SPEED TRICOT MACHINE

Will soon be in operation at our plant. You will want to see it. You will want to buy it. You will marvel at how L. Robaczynski and Associates have eliminated so many of the objectionable features in present day models.

Of course, it's a two bar, 26 and 28 gage, 180 inch width, 21 inch beam (or any other standard size) machine. But there the similarity ends. The new Robaczynski Tricot is designed to give you higher quality production with longer life and less time out for repairs and maintenance.

Seeing is believing so you can soon see it in our new show room at the plant. Write today for an appointment.

ROBACZYNSKI
MACHINE CORPORATION
PURL STITCH (Links and Links) and FLAT KNITTING MACHINES

340 Ten Eyck St. Brooklyn, N. Y.

SANDOZ PRESENTS *The color achievement of the month*

Confident Color BY MIRON WOOLENS

The success of this clever round-the-clock suit depends greatly upon its color striking the fancy of the women who see it as they shop.

All parties concerned can have confidence in the success of this suit, due among other things to the fact that the Bell Company, the weaver, counts Sandoz among its suppliers and relies upon Sandoz for top quality in dyes.

Bell—and other leaders in fabric—know that *Sandoz thinks ahead with textiles*, and continually brings out colors that are both fashionably and technically correct.

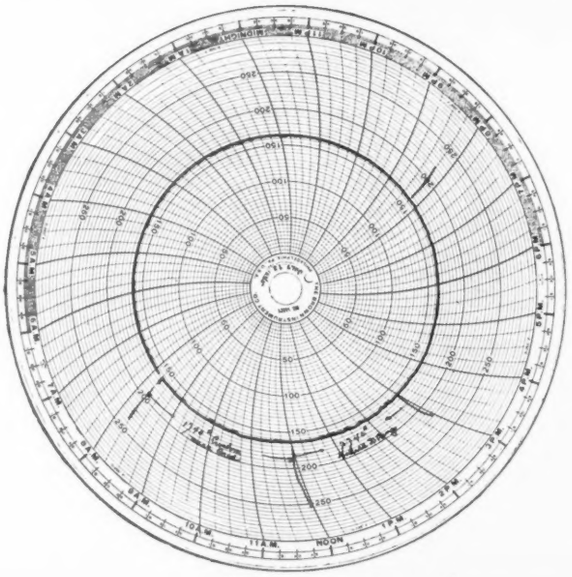
For example — Sandoz offers a full range of Acid colors . . . level dyeing, well suited for piece dyeing, and extremely fast to light and wear. These include Xylene Light Yellow 2GP (Pat.) . . . patented Alizarine Light Blue 4GL and Violet 2RC or Azo Rubinole 3GP (Pat.) . . . exclusive Sandoz developments.

For acid, chrome or direct dyes . . . or auxiliary chemicals . . . for both natural and synthetic fibres . . . be guided by the successful "color achievements" you have been seeing in these Sandoz advertisements. Sandoz application laboratories are located in New York, Boston, Philadelphia, Los Angeles, Charlotte, Toronto, where stocks in wide range are carried. Other branches are in Chicago, Paterson and Providence.

SANDOZ CHEMICAL WORKS, INC., 61 VAN DAM STREET, NEW YORK 13, N. Y.

SAND *thinks ahead with textiles* S SANDOZ

One of the many advantages of GAS and MODERN GAS EQUIPMENT



precise,

easy

and inexpensive

controllability

No other fuel for the industrial production line, where heat application in any form is required, lends itself so well to control of combustion and temperature as does Gas. The rate of flow, which determines heat input, may be varied over wide limits, at an infinite number of intermediate points.

Gas may be burned at the rate needed for the minute flame of a jeweler's torch. It may be fired at the tornadic intensity required in a furnace to heat treat steel billets 10 inches in diameter at 2250° F. In between and at even higher temperatures it is called upon to do scores of other jobs where temperature readings from control panels of Gas equipment show a fidelity to exactness that is unequalled in heat treating.

Gas controllability is, at the same time, very easy to obtain with equipment that is far less expensive to install and operate. This fuel knows no mere "on," "off" or "in-between" control, but, instead, close, accurate modulation to best serve you. Your local Gas Company's Industrial Engineer will, without obligation, tell you how Gas and modern Gas equipment can bring their dual advantages to work for you, specifically.

AMERICAN GAS ASSOCIATION

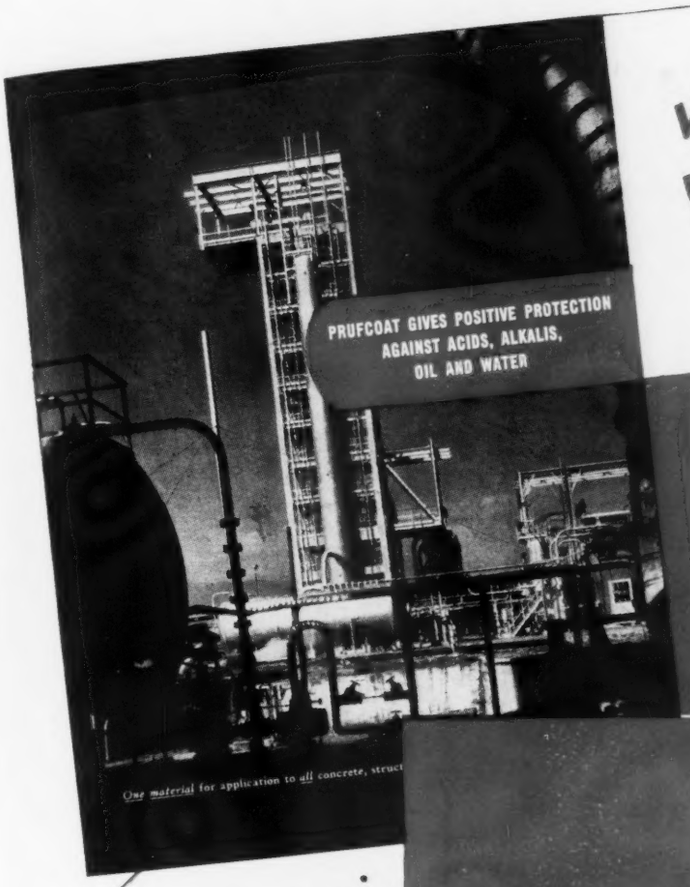
420 LEXINGTON AVENUE, NEW YORK 17, N. Y.

THE TREND IS TO GAS

FOR ALL
INDUSTRIAL HEATING

STOP CORROSION

THE PERFORMANCE-PROVED WAY


PRUFCOAT GIVES POSITIVE PROTECTION
AGAINST ACIDS, ALKALIS,
OIL AND WATER
One material for application to all concrete, struct

- ✓ One material for all surfaces
- ✓ Low unit cost
- ✓ Painted on by brush, spray gun or dipping
- ✓ Air dries in a few minutes
- ✓ Applied by your own maintenance crew
- ✓ Long life
- ✓ No baking necessary

PRUFCOAT CUTS MAINTENANCE COSTS

Prufcoat's original low cost, ease of application to *all* surfaces, and long life, make it the lowest cost method of maintenance. For Prufcoat costs only slightly more per gallon than ordinary paint, costs no more to apply, and can be used on all concrete, structural steel, floors, tanks, pipes and machinery to *provide positive protection against acids, alkalies, oil and water.* Thus, one material for *all* surfaces, ease of application and less frequent repaint jobs, make maintenance savings certain.

Proved in hundreds of America's largest industrial plants under the severest type of conditions, Prufcoat is being used today not only in areas where corrosion is a serious problem, but on all structural steel, handling equipment, concrete, masonry, stone, brick, etc. — *both inside and outside.* For Prufcoat cuts maintenance costs whether the corrosion problem is mild or severe.

PRUFCOAT LABORATORIES, *Incorporated*
Plant: 65 Main Street, Cambridge 42, Massachusetts
Sales Office: 50 East 42nd Street, New York 17, New York

Get the complete **PRUFCOAT STORY**

PRUFCOAT

The PERFORMANCE-PROVED *protective coating*

SEND FOR this 11-page, fully illustrated and documented booklet, *just off the press.* Tells the *complete* story about what Prufcoat does and how it does it, *including case histories and full directions* for Prufcoating concrete, structural steel, floors, pipes, tanks and machinery. *Write for your free copy today.*

PRUFCOAT

gives Positive Protection against
ACIDS, ALKALIS, OIL & WATER!

Prufcoat Laboratories, Incorporated · 50 East 42nd Street, New York 17, N. Y.

We'll hang our story on a clothesline

Desirable properties suggest uses for **GEON** *raw materials in every industry*

★

THAT clothesline in the picture is something new. It consists of a flexible rope or metal core, covered with one of the GEON polyvinyl materials. It has certain definite advantages over conventional clotheslines—all of which can be translated into improved finished products in literally every industry and in the home.

For example, the clothesline is practically age-proof—resists the effects of sun, rain, light, heat, cold. It won't crack or get gummy even after prolonged exposure to weather. It's easily cleaned with a damp cloth—no dirt or grime can penetrate it. It's mildew-proof—fungi can't enter the surface. It will wear indefinitely—pull it around hooks thousands of times—no snagging, no breaking of the tough coating. It's smooth, flexible, easy to handle. It's brightly colored for high visibility and attractive appearance.

Consider those properties—plus others such as excellent electrical properties and resistance to acids, oils, and chemicals—in light of the fact that GEON can be extruded, pressure or injection molded, used as coatings for fabric or paper, calendered or cast into sheet or film. *The number of established and potential applications in every field is literally limitless.* For more information about GEON polyvinyl raw materials or for help with specific applications, please write Dept. H-2, B. F. Goodrich Chemical Company, Rose Building, Cleveland 15, O.

Here are a few applications for GEON suggested by the clothesline

Textile coatings for rainwear, awnings, industrial aprons.

Calendered, embossed sheet for upholstery and luggage.

Calendered or molded sheet for flooring, shoe soles, shower mats.

Paper coatings or film for packaging, wall covering.

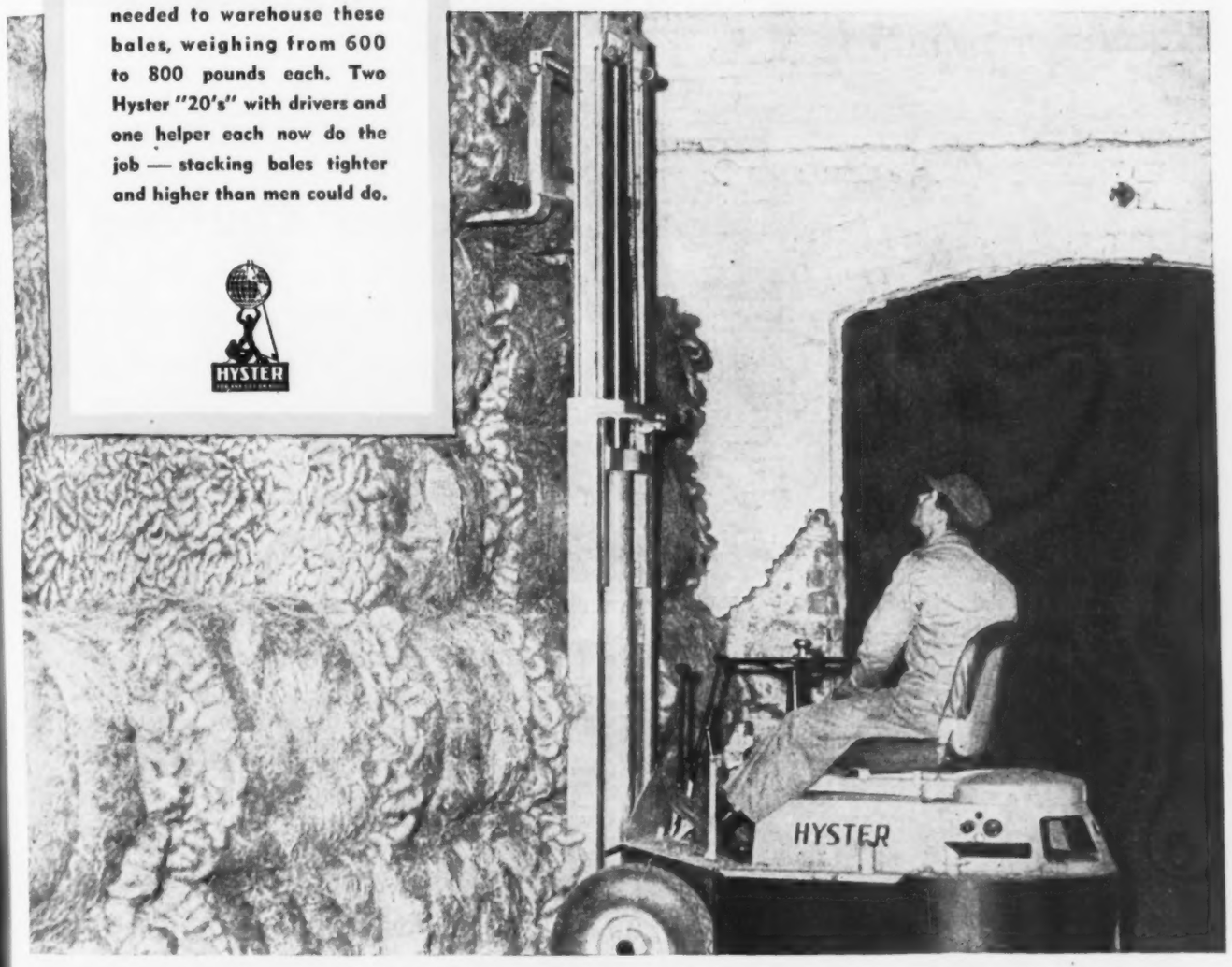
Extruded wire and cable insulation.

Geon
Polyvinyl Materials

B. F. Goodrich Chemical Company

A DIVISION OF THE B. F. GOODRICH COMPANY

From 20 to 25 men once were needed to warehouse these bales, weighing from 600 to 800 pounds each. Two Hyster "20's" with drivers and one helper each now do the job — stacking bales tighter and higher than men could do.



TEXTILE PLANT COST-CUTTER

HYSTER INDUSTRIAL LIFT TRUCKS are cost-cutters on wheels. In and around a textile plant Hyster cuts materials handling costs by hoisting, transporting, stacking all kinds of loads quickly, efficiently, economically.

Textile men have learned from experience that Hyster industrial lift trucks earn back their original cost many times over by making important savings in time, manpower and money.

All Hyster models are equipped with pneumatic tires; gas powered; streamlined in design for ease of handling in tight places and in crowded aisles. Models from 2000 to 30,000 pounds capacity. Write for illustrated literature.

DISTRIBUTOR SALES AND SERVICE IN PRINCIPAL CITIES

New 1946 Hyster "40". The only 4000 pound industrial lift truck on pneumatic tires.

HYSTER COMPANY

2922 N. E. CLACKAMAS ST., PORTLAND 8, OREGON
1822 NORTH ADAMS STREET, PEORIA 1, ILLINOIS

Branch Offices: CHICAGO • NEW YORK • MEMPHIS
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Every Department Benefits when Carding is Uniform

Reclothe your Cards with

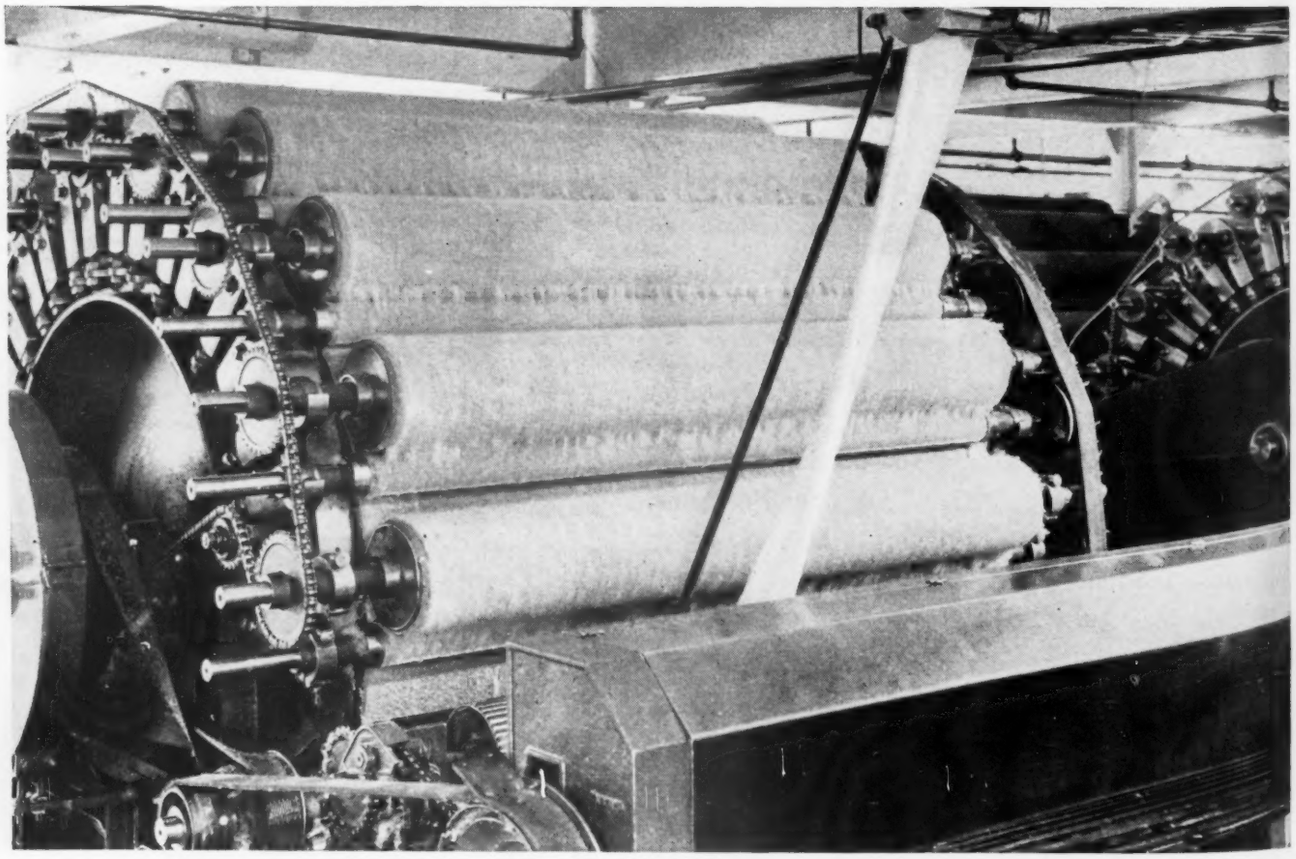
TUFFERIZED Card Clothing

TUFFER PRODUCTS

Card Clothing for Woolen, Worsted, Cotton, Asbestos and Silk Cards • Napper Clothing, Brush Clothing, Strickles, Emery Fillets. Top Flats Recovered and extra sets loaned at all Plants. Lickerins and Garnet Cylinders from 4 to 30 inches and Metallic Card Breasts Rewired at Southern Plant • Midgley Patented, and Howard's Special Hand Stripping Cards • Inserted Eye & Regular Wire Heddles

Expertly applied and properly operated Tufferized Card Clothing will produce the fine even web free from "nibs" so necessary for efficient spinning and weaving.

If you suspect that uneven carding is hampering your spinning room and weave room have a Howard representative inspect your card clothing. He will detect and report the cause and make suitable recommendations.



HOWARD BROS. MFG. CO.

WORCESTER, MASSACHUSETTS

Southern Plants: Atlanta, Ga., Gastonia, N. C. **Branch Offices:** Philadelphia, Pa., Blanco, Tex. **Canadian Agents:** Colwool Accessories, Ltd., Toronto 2

SKEIN DYEING COSTS CUT 25% ...

Production Increased As Much As 50%

The Smith-Drum Skein Dyeing Machine introduced a radically new principle which has completely revolutionized skein dyeing. This machine "moves the liquor, instead of the yarn." Its low liquor ratio saves on dyestuffs, steam and water. Simplified operation reduces labor costs. Faster dyeing time cuts operating costs per batch. *These savings add up to a 25% to 30% reduction in dyeing costs!*

In addition to lower costs, this Smith-Drum machine increases production as much as 50%! It can handle larger batches than any other machine occupying the same floor space . . . and faster dyeing permits more batches per day.

Because of the unique principle employed in this machine . . . "move the liquor instead of the yarn" . . . there is no snarling or breaking of the yarn. This saves time, trouble, and costs in winding and results in a higher quality finished fabric. Complete information will be sent upon request.

SMITH, DRUM & COMPANY, Allegheny Ave. at 5th St., Philadelphia 33, Pa.

Send for a copy of this Booklet

Four times winner of Army-Navy "E"

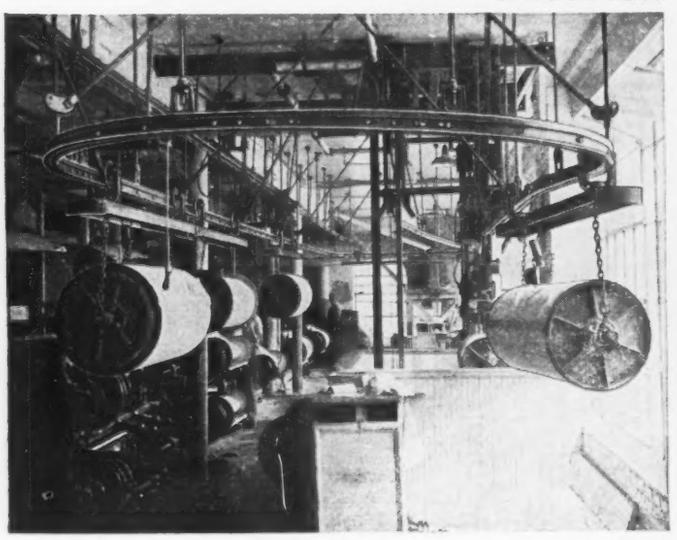
SMITH-DRUM. PROCESSING MACHINERY

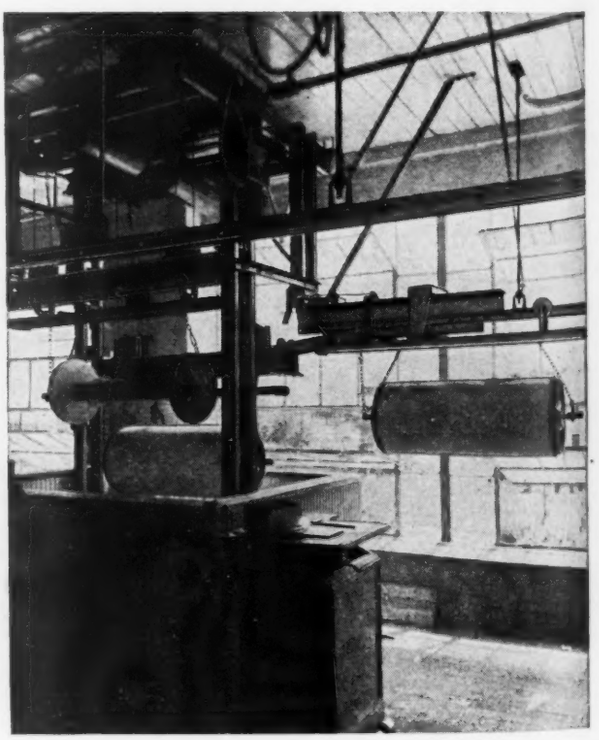
for hosiery dyeing, skein dyeing, package dyeing, beam dyeing, piece goods dyeing, package extracting, package drying, skein mercerizing, warp mercerizing, hosiery inspection.

American MonoRail Engineers, with their highly specialized experience, can relieve you of all details in cranes and overhead handling systems. They are constantly in touch with handling problems of every conceivable kind. At the beginning of the project their assistance in preparing an accurate and efficient layout will insure successful operation of the system.

Let us send you a copy of our 264-page engineering manual covering Mono-Rail Carriers and Cranes.

These engineers are conveniently located in nearly every industrial center for immediate consultation. This service is gladly offered without obligation.





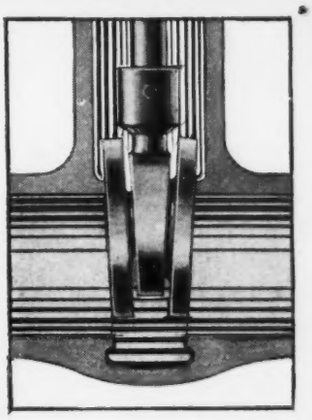
THE AMERICAN MONORAIL COMPANY

13108 ATHENS AVENUE CLEVELAND 7, OHIO

ALOYCO No. 111 GATE
Leader of Corrosion-Resistant Valves

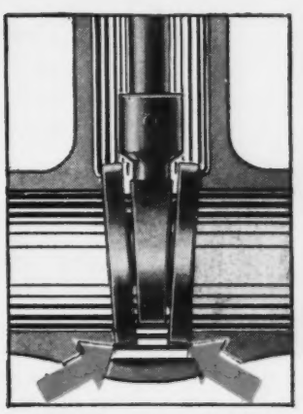
This GATE VALVE MAKES ASSURANCE DOUBLY SURE

This valve has what it takes to handle tough corrosive solutions. Double rotating wedges provide drop-tight closure and long life under severe operating conditions. Has precision construction, superfine machine finished seating surfaces and unique design. Available in Aloyco 20, 18-8S, 18-8 SMo, the higher Chrome-Nickel series, Worthite, Hastelloy, Monel and pure Nickel. If you handle corrosive fluids or vapors, investigate this valve. Write for circular.



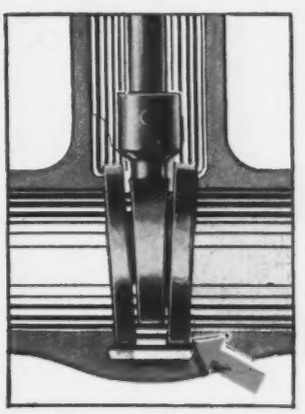
FLOATING DISCS, FREE TO ROTATE WEAR EVENLY

Being free to rotate, the twin discs cut sludges, slurries and viscous solutions. Not held to one point, they wear evenly.



WEDGE—RING FORCES DISCS AGAINST SEATS SEALING THE PORTS

Simple ball and socket construction permits wedge to "take-up" any unevenness and provides better metal-to-metal contact.



DOUBLE VALVE EFFECT! IF ONE DISC LEAKS — OTHER CAN STILL *SEAL*

Should pipe misalignment, shock or scale prevent one disc from seating, the other can still be "drop-tight." Like two valves on one line!

REPAIR WITHOUT SPECIAL TOOLS OR JIGS

Husky ring is both threaded and pinned to stem, minimizing chances of loosening.

Weld metal may be deposited here to restore original contact dimensions when re-seating is required.

Ball and socket provide gripping surface for re-seating in lathe.

ALOYCO

STAINLESS STEEL VALVES AND FITTINGS

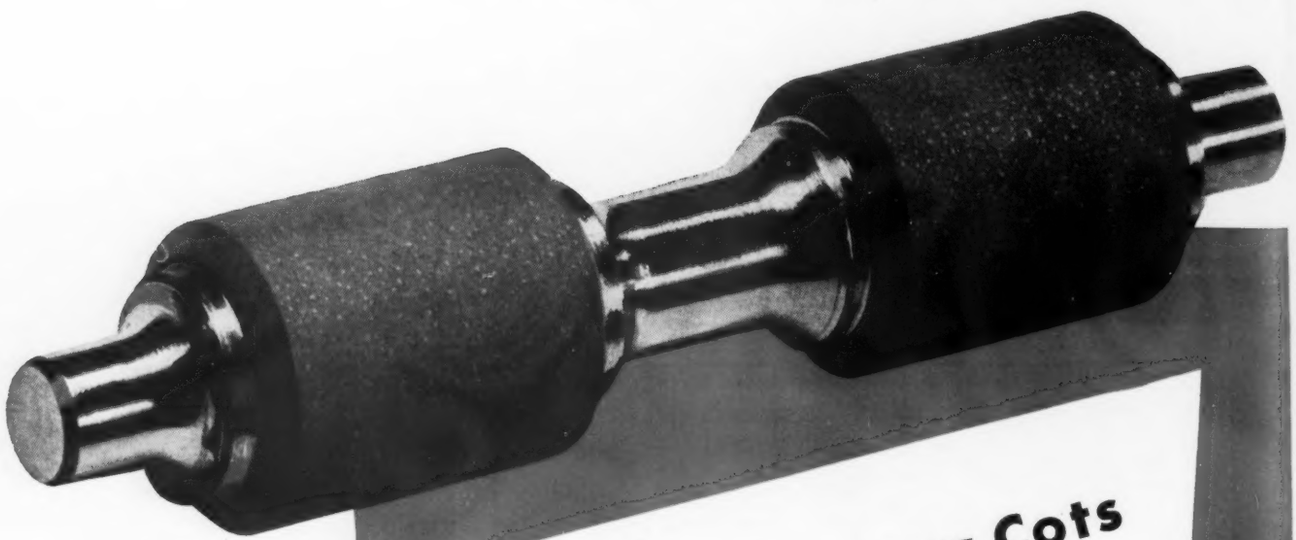
GATE, GLOBE, Y, CHECK, TANK, SAMPLING AND V-PORT VALVES
SCREWED, FLANGED AND WELDED FITTINGS

ALLOY STEEL PRODUCTS COMPANY, INC.

130 WEST ELIZABETH AVE. • LINDEN, N. J.

YOU GET BETTER

because this improved



8 advantages of Accotex Cots

1. **LONG SERVICE**—Accotex Cots are tough. And they can be rebuffed 5 or 6 times.
2. **GOOD DRAFTING**—Accotex Cots retain their excellent grip, because their cork-and-synthetic composition resists slicking.
3. **REDUCED EYEBROWING**—The resistance to slicking minimizes eyebrowing.
4. **REDUCED LAPPING**—Accotex Cots have little affinity for textile fibers and are non-sweating.
5. **GOOD START-UP**—Accotex Cots are non-thermoplastic and resist flattening.
6. **SOLVENT RESISTANCE**—Accotex Cots are not affected by oil, water, dyes, or any of the commonly used textile solvents.
7. **SEAMLESS CONSTRUCTION**—Accotex Cots have no seams—can't break open in service.
8. **QUICK ASSEMBLY**—Accotex Cots are ready glued for easier, quicker assembly.

We were planning to greet you at the Textile Exposition

We're sorry we won't have the pleasure of seeing you at the Southern Textile Exposition this year. If you have any roll covering problems that you were planning to discuss with us at the show, phone or write. We'll be glad to call and talk them over with you at your mill.

DRAFTING

synthetic cot resists slicking

Made of synthetic rubber *and* cork, Armstrong's Accotex Cots retain their superior grip longer than any "straight" synthetic roll covering. The cork content gives Accotex Cots unusually high resistance to slicking. And this exclusive long-lasting grip means you get better drafting . . . produce higher quality yarn . . . when you run on these improved roll coverings.

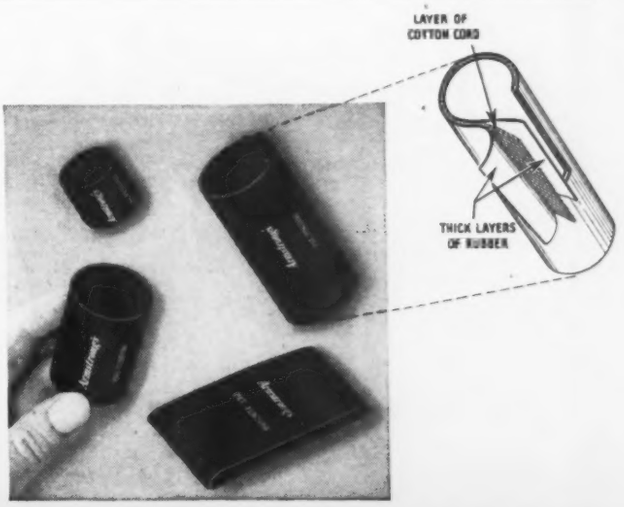
Better drafting is only one of the eight important spinning advantages offered by Accotex Cots. Check over the list at the left and you'll see why more and more mills are changing to Accotex Cots . . . why, according to recent surveys, they are now serving more spindles than any other synthetic cot.

Your Armstrong representative will be glad to help you arrange tests of these superior roll coverings on your own frames. Ask him for samples, prices, and complete information. Or write to Armstrong Cork Company, Textile Products Department, 8303 Arch St., Lancaster, Pennsylvania.

Also by the makers of Accotex Cots

. . . the Accotex Apron

The Accotex Long Draft Apron, a result of the same specialized research and technical skill that produced Accotex Cots, gives you more production, cleaner-running work, reduced lapping, and better grip. These production advantages are due to their special seamless construction shown at right—a sturdy cord interliner sandwiched between two heavy layers of synthetic rubber.



ARMSTRONG'S ACCOTEX COTS

CORK COTS • ACCOTEX APRONS

STEEL HEDDLES
HEDDLE FRAMES
REEDS
COTTON HARNESS
MAIL HARNESS
SELVAGE HARNESS
JACQUARD HEDDLES
MENDING EYES & TWINE
"WARDWELL" LOOP & DOLL PICKERS
PICKER APRONS & CONVEYORS
SLASHER & STRIKING COMBS
"GOODRICH" LOOM HARNESS STRAPPING

A 12 IN 1 SERVICE THAT SAVES YOUR TIME AND ENERGY

When the E-Man calls, or when you call him, you can order as many as 12 DIFFERENT PRODUCTS from this one source — all second to none in quality. Think of the convenience and of the time and energy you save. This is a bonus in addition to the performance economy that Emmons Products assure.

Emmons Service is efficient in another way, too, in that there's an E-Man in your vicinity, no matter in which textile area you are located. His address and 'phone number are given here for your convenience. Get in touch with him the next time you need the products he offers.

EMMONS LOOM HARNESS CO., Factories in Lawrence, Mass., and Charlotte, N. C. Branch offices as listed.

LAWRENCE, MASS.
Main Office & Plant
P. O. Box 927
'Phone—6194

CHARLOTTE
(Branch Plant)
Clifton Watson
Manager Southern Sales
P. O. Box 2036
'Phone—3-7503

NEW YORK
W. S. Taylor
52 Vanderbilt Ave.
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EMMONS

SPINNING & WEAVING ACCESSORIES

Let me cut your handling costs in HALF!

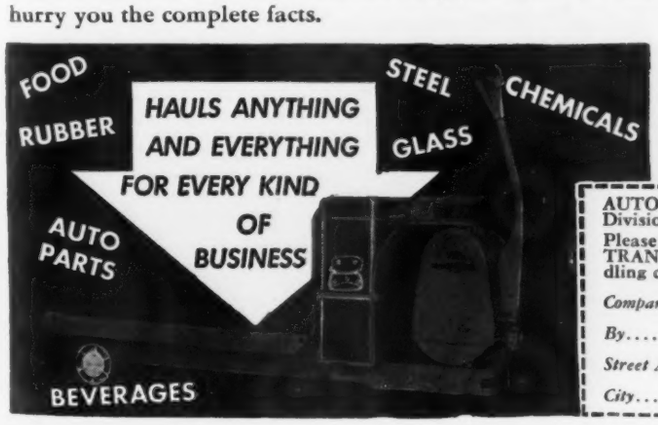
Muscle Mike CAN with this Brawny Midget of Electric Trucks

All industry is using this Miracle Electric Truck. In its motor is a Muscle Mike . . . a brawny midget of electric power that moves up to 6000 pounds with amazing "touch-of-your-thumb" ease.

Its name is Automatic Transporter. You haven't a handling job it can't lick. One man or girl at the control buttons does the work of three husky laborers. That's two-thirds saving in labor alone. Forget about drudgery and fatigue. It's next to nothing. Take it in and out of tight places that would put even hand trucks to shame. It comes through for you without a whimper.

Thousands of these industry-tested Automatic Transporters have been making sensational performance records in every kind of business. Increased production now makes it available to *you*. But for a while the order will have to be "First come, first served!" Mail the coupon so that we can hurry you the complete facts.

Remember: Only AUTOMATIC makes the TRANSPORTER



Transporter

A PRODUCT OF AUTOMATIC

Lightens LIFE'S LOADS

AUTOMATIC TRANSPORTATION COMPANY
Division of The Yale & Towne Mfg. Co., 97 W. 87th St., Dept. C, Chicago 20, Ill.

Please mail me, without cost or obligation, complete facts about AUTOMATIC TRANSPORTER, the Miracle Electric Truck . . . plus *proof* that it will cut my handling costs in half.

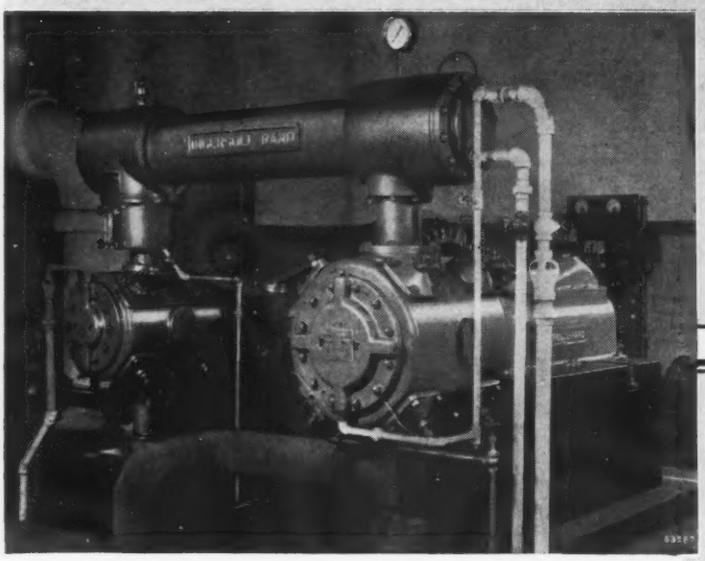
Company Name.....

By.....*Position*.....

Street Address.....

City.....*State*.....

You'll BE USING MORE AIR POWER



HUMIDIFICATION — more than ever before is a prime requirement in all departments.

MILL MACHINERY — shows a sharp rise in the use of air-operated appliances and controls — compressed air is so easy to adapt.

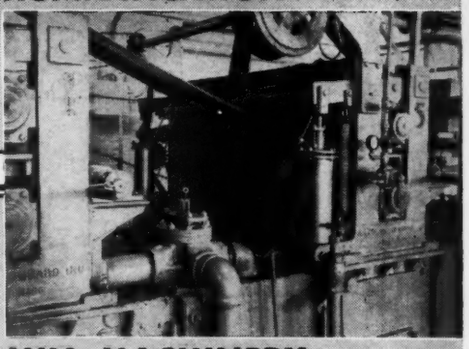
AIR TOOLS — save time and money in maintenance and construction.

CLEANING — by air-jet or vacuum continues its 50 year record.

SPRAY PAINTING — the standard practice in the industry, is fast and efficient.

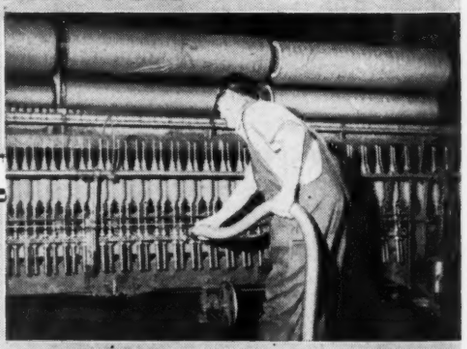
Now is the time to know just what Air-Power is doing in textile mills. Take full advantage of its possibilities. Our experienced engineers will be glad to discuss your problems with you.

HUMIDIFICATION



MILL MACHINERY

AIR TOOLS



CLEANING

SPRAY PAINTING

Ingersoll-Rand

11 BROADWAY, NEW YORK 4, N. Y. I-647

COMPRESSORS • AIR TOOLS • ROCK DRILLS • TURBO BLOWERS
CONDENSERS • CENTRIFUGAL PUMPS • OIL AND GAS ENGINES

YARNS MAY BE SYNTHETIC . . BUT STATIC TROUBLES ARE REAL!

ELIMINATE ALL STATIC WITH THE CHAPMAN ELECTRIC NEUTRALIZER

Each new synthetic, each new method, each new machine—has a new set of problems—some easily solved, others not so simply. For years the problem of static in textile mill routine was costly, time-devouring, constantly troublesome. Humidity controls are not the complete answer for static. And excess humidity is expensive.

Today, the Chapman Electric Neutralizer, in thousands of plants and mills is doing away with all static troubles on which static — from any cause — may otherwise slow down production or prove a nuisance or an expense.

Chapman Electric Neutralizers are eliminating static on:

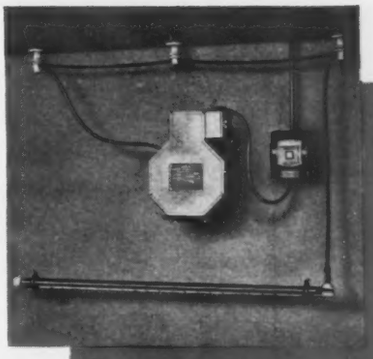
WOOLEN CARDS	**WORSTED CARDS**	**FOLDERS**
HIGH SPEED SLASHERS	**GARNETTS**	**NAPPERS**
HIGH SPEED WARPERS	**COTTON CARDS**	**DRYERS**

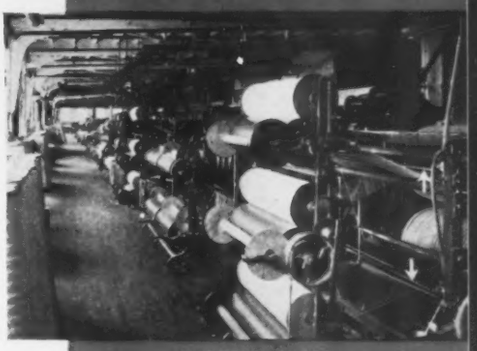
. . . and other machines, in many different operations, to speed production. And now, Chapman Neutralizers will expedite new peace-time output.

HOW IT WORKS — A Chapman Power Unit or transformer produces a corrective alternating charge at suitable tension, which is delivered through the Chapman Inductor Bar *to the material.* Whether the static charge is positive or negative, it is instantly neutralized, safely, by the corrective charge from the Inductor Bar.

STOP COSTLY DELAYS! SPEED PRODUCTION BY ENDING STATIC NUISANCE ONCE AND FOR ALL!

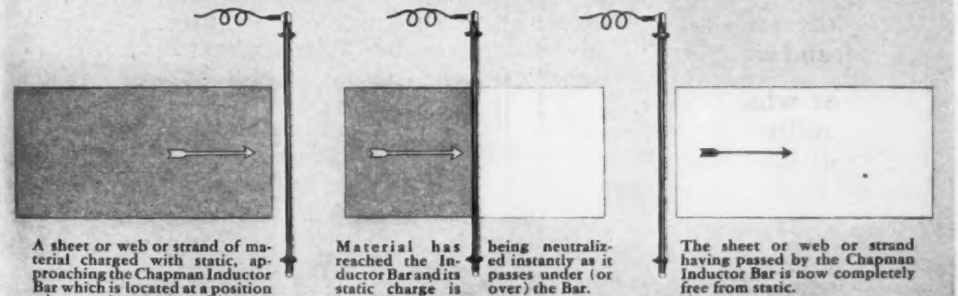
Call upon the Chapman Engineering Service! Write us! We will analyze your specific static problems.





WOOLEN CARDS
— all equipped with
Chapman Static Neutralizers.

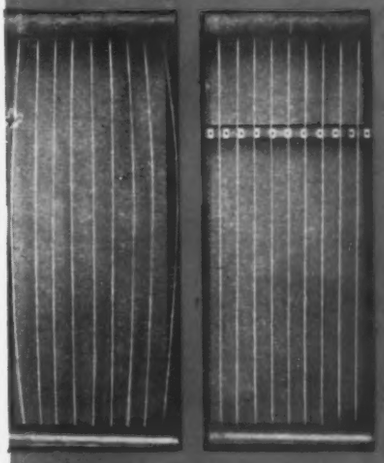
FUNCTIONAL OPERATION OF THE CHAPMAN NEUTRALIZER



A sheet or web or strand of material charged with static, approaching the Chapman Inductor Bar which is located at a position where static causes trouble.

Material has reached the Inductor Bar and its static charge is being neutralized instantly as it passes under (or over) the Bar.

The sheet or web or strand having passed by the Chapman Inductor Bar is now completely free from static.



BEFORE AFTER

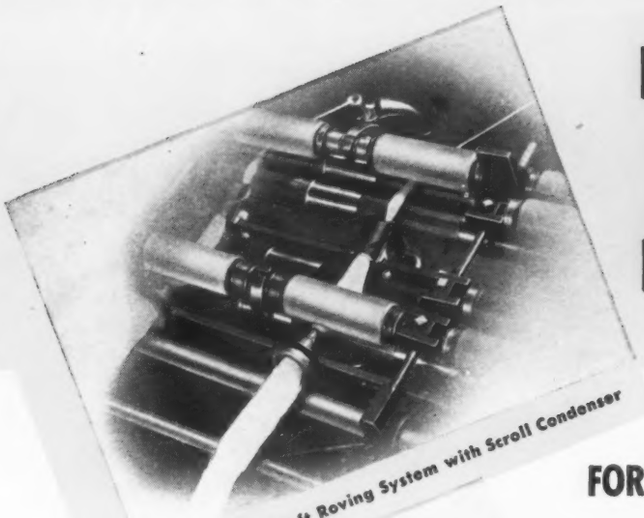
WOOLEN ROVING
before and after static charges are eliminated.

CHAPMAN ELECTRIC NEUTRALIZER COMPANY

ESTABLISHED 1904

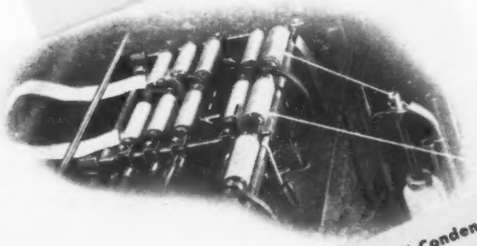
PORTLAND, 6, MAINE

H & B

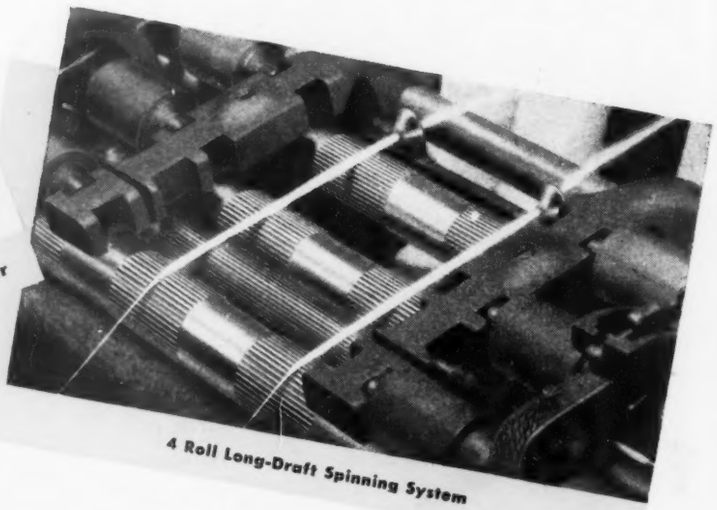


4 Roll High-Draft Roving System with Scroll Condenser

FOR CARD ROOM & SPINNING MACHINERY



5 Roll High-Draft Roving System with Scroll Condenser



4 Roll Long-Draft Spinning System

H & B Casablancas High-Draft Spinning System

YOU HAVE A CHOICE
WHEN PURCHASING THIS EQUIPMENT

No two mills are exactly alike as to manufacturing methods or the type of stock they handle. Therefore the best spinning system for one may be unsatisfactory for another.

That is why H & B gives you a CHOICE of different types of high-draft equipment for card room and spinning room. Each has its own peculiar advantages in a given situation, but which is best for YOU is a matter for consultation with our engineers.

Tell us your problem and let us make recommendations, free of all obligations.

H & B AMERICAN

High-Draft Systems

FACTS ABOUT H & B HIGH-DRAFT SYSTEMS

4 ROLL HIGH-DRAFT ROVING SYSTEM (with Scroll Condenser). For drafts up to 16 on staples up to 2". Rectangular serrated trumpet spreads the sliver for the first drafting zone and combs fibres to improve drafting and reduce fly. Patented weighting system facilitates cleaning because of streamlining and fewer parts, and provides positive control of weight distribution. Lubricating method saves oil and increases life of roller covering.

5 ROLL HIGH-DRAFT ROVING SYSTEM (with Scroll Condenser). For drafts up to 30. Is successfully drafting 60 grain sliver to 3.50 or 4 hank roving in one operation. Mechanical features are similar to those of the 4 Roll High-Draft System.

PATENTED SCROLL CONDENSER. This device, made of Bakelite to eliminate static, is used on both the 4 Roll and the 5 Roll High-Draft Roving Systems. It prevents flaring and spreading of the fibres by condensing them into a compact sliver, without disturbing parallelization, and gives just enough false twist to allow better control in the drafting zone.

4 ROLL LONG-DRAFT SPINNING SYSTEM. Thousands of spindles equipped with this system testify to the fact that it fully meets quality and economy requirements in many instances. Since it has no belts, it is easy to clean, easy and economical to operate, and readily adjusted.

H & B CASABLANCAS HIGH-DRAFT SPINNING SYSTEM. For the mill that prefers a belt system there is nothing better than CASABLANCAS, since the system was designed by people who specialize exclusively in the high-draft field. New synthetic belts minimize the maintenance problem and important mechanical improvements enhance the yarn quality. These improvements include a new type cradle and automatic weighting. No lever screws, no adjusting, greater cleanliness, nothing on the roller beam, no weights or weight wires.

MACHINE CO.

PAWTUCKET, R.I., U.S.A.

BOSTON OFFICE: 161 Devonshire St.; *ATLANTA OFFICE:* 815 Citizens & Southern National Bank Bldg.; *CHARLOTTE OFFICE:* 1201-3 Johnston Bldg.; *CANADIAN REP.:* Rudel Machinery Company, Ltd., Textile Division, Montreal and Toronto.

HIGH SPEED TRICOT WARPER

This new and outstanding machine introduces a radically new beam-doffing mechanism which doffs in one to one and one-half minutes.

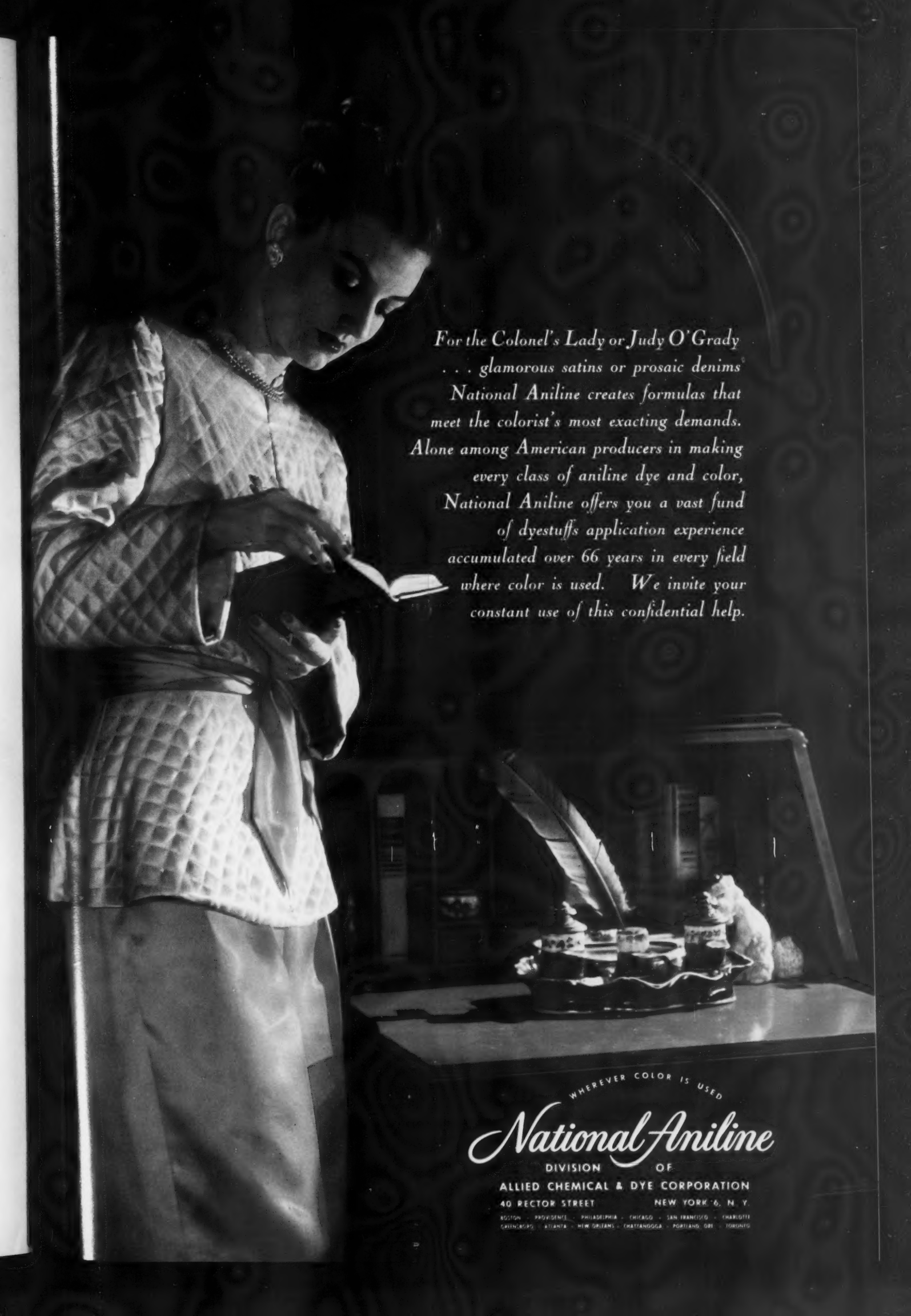
The New Cocker High Speed Tricot Warper has a new type drive which gives constant yarn speed and an adjustable operating speed. It permits gradual acceleration and is equipped with dynamic and magnetic braking. It also introduces an entirely new design of presser roll control.

The New Cocker High Speed Tricot Warper is of extra heavy construction to stand speeds up to 1,000 yards per minute.

Write or wire for full information.

Our engineering staff is trained by years of experience to solve individual problems.

COCKER
MACHINE and FOUNDRY
COMPANY
GASTONIA, NORTH CAROLINA


For the Colonel's Lady or Judy O'Grady . . . glamorous satins or prosaic denims National Aniline creates formulas that meet the colorist's most exacting demands. Alone among American producers in making every class of aniline dye and color, National Aniline offers you a vast fund of dyestuffs application experience accumulated over 66 years in every field where color is used. We invite your constant use of this confidential help.
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FACTORS

For Manufacturers and Merchants

Inquiries as to our services solicited

●

ESTABLISHED 1840

For the Answers

to Stainless forming problems...

like

Spring-Back? How much spring-back should we allow for in designing dies to dish 12-in. dia., ES 18-8 (Type 302) reflector bowls 2 in. deep, from 10-gauge sheet?

Best Finish for Drawing? What sheet finish is best for deep-drawing, and how can we obtain the highest drawn finish—without after-polishing—on heavy ES 18-8LC (Type 304) hospital ware?

Bending Cylinders? Can we form 3-ft. dia. cylinders in ES 12 Stainless plate (Type 410) on bending rolls? Can it be done from the flat in one pass?

Scratch Protection? What is the best way to protect polished Stainless sheet from scratching on a bending brake?

Deep Spinning? Can ES 18-8LC sheet (Type 304) be spun deeper with a bar or roll spinning tool? What do you recommend as a lubricant and how should it be applied?

How Many Operations? How many draws and reanneals will be necessary to cup an 8-in. dia. 20-gauge shell 6-in. deep in ES 17 (Type 430) sheet?

ask Eastern for the answer when Stainless is the question

Down-to-earth problems like these are answered every day at Eastern. Your questions about handling Stainless . . . whether on deep drawing, spinning, bending, or any other method of fabrication . . . are invited. Send now for your copy of the all-inclusive catalog, "Eastern Stainless Steel Sheets," for many of the answers. And, if you need further or more specific information, get the answer from any of our 18 offices or distributors.

JMLeo-E-C1

EASTERN STAINLESS
STEEL CORPORATION
BALTIMORE 3, MARYLAND • Distributors' stock available in most areas
CHICAGO · CLEVELAND · DALLAS · DETROIT · LOS ANGELES · NEWARK · PHILADELPHIA

ES

One Result of Victor Service Engineering

That's you in the chair.

The picture represents one result the Victor Service Engineer is always seeking . . . more opportunity for you to relax. His primary purpose, of course, is to give you experienced, practical help in smoothing up your spinning and twisting – in helping you keep costs down and yarn quality up. When he is successful (and he is in a surprisingly high percentage of problems presented) the indirect result is more *time to spare* for you.

We know that, actually, very little of the time he saves you can be spent in the blissful ease pictured above. But it is extra time any mill man will treasure in these trying days, wherever you choose to apply it.

You'll find the Victor Service Engineer easy to talk to. He is thoroughly mill-trained, and he has sat in on thousands of spinning and twisting problems. He is familiar with all the quirks of the conventional fibers, and has up-to-the-minute information on the new fibers and new blends that may be plaguing you. Talk over your troubles with him, traveler-wise. He'll call at your request. Write, wire, or phone the nearest Victor office.

VICTOR Ring Travelers

VICTOR RING TRAVELER COMPANY

PROVIDENCE, R. I. . . . 20 Mathewson Street . . . Tel. DExter 0737

GASTONIA, N. C. . . . 173 W. Franklin Avenue . . . Tel. Gastonia 247

Not just "any oil"—

BUT A CHEMICALLY TREATED LUBRICANT

Textile machinery, pushed to the limit throughout the war, shows signs of wearing out before new looms, cards, pickers, motors, winders, etc., can be obtained.

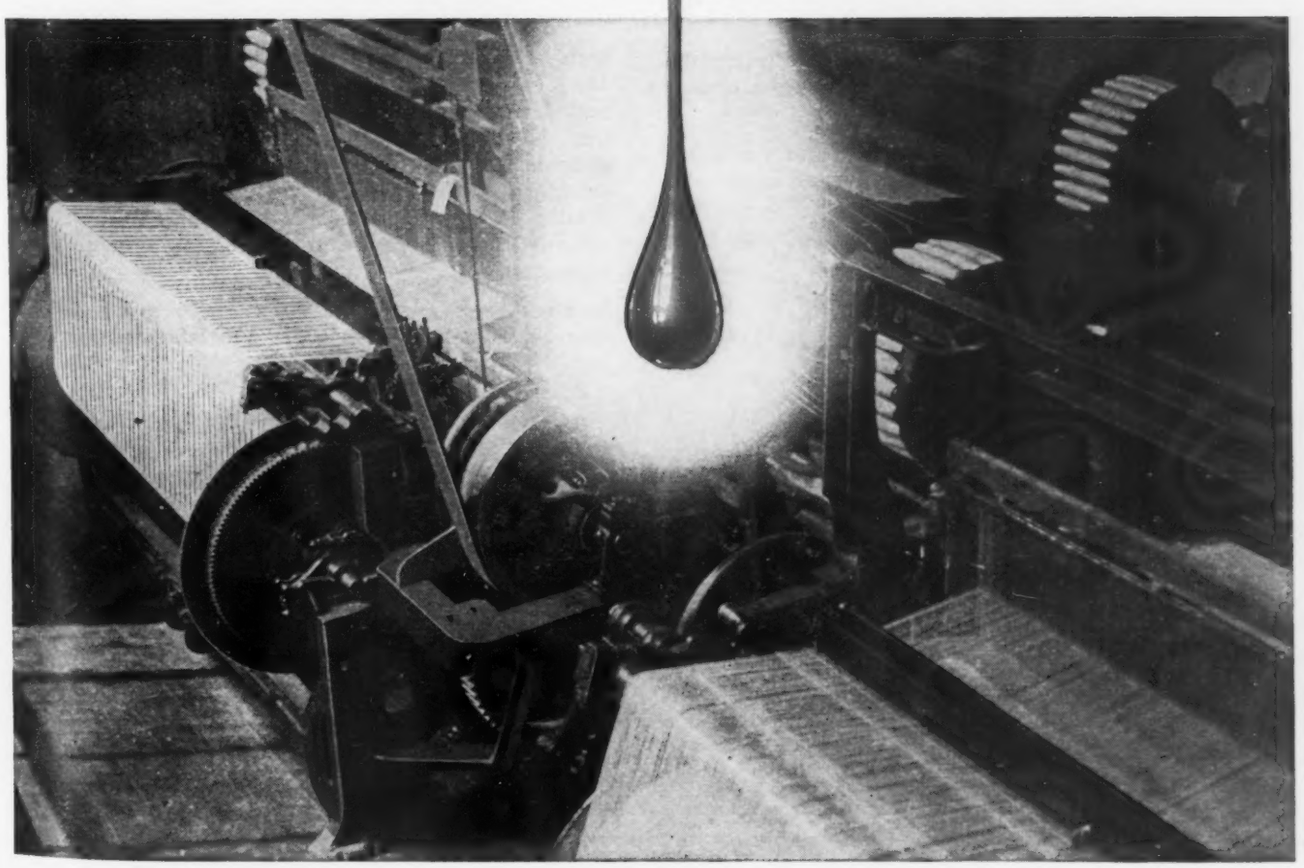
Worn bearings tend to leak oil, and oil which doesn't stay in is a menace to fabrics, yarns and floors.

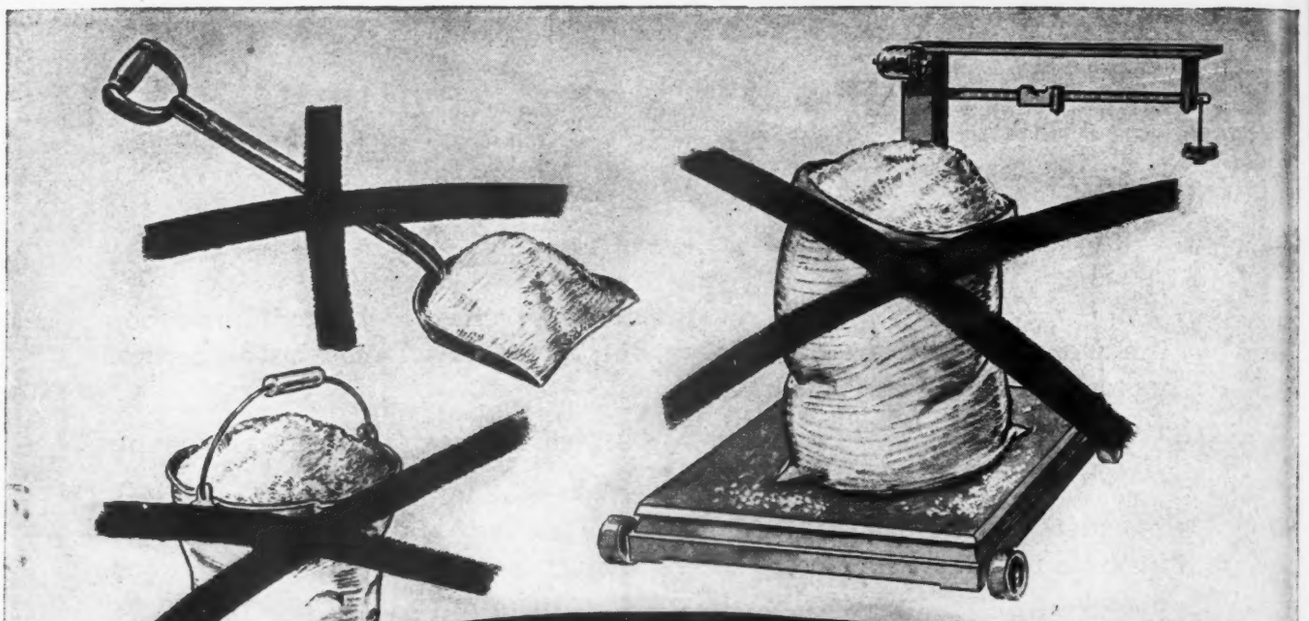
In order to make oils "stay put," it is necessary to give them retentiveness by treating them chemically. Another purpose of treatment is to increase their load-carrying capacity. Still another is to make them resistant to oxidation, so they do not form gums or sludges.

Houghton has helped solve these problems by perfecting STA-PUT Lubricants, *"fortified"* to provide protective qualities that reduce wear and maintenance. They possess high oiliness value. Their slogan—"Less Oil, Less Often"—tells in four short words why textile men like Sta-Puts. Ask the Houghton Man to quote you on your lubrication needs, and tell you the story of Sta-Puts. E. F. HOUGHTON & CO., Philadelphia and Charlotte.

HOUGHTON'S STA-PUT LUBRICANTS

"LESS OIL — LESS OFTEN"





FOR MODERN ACCURATE SALT MEASUREMENT YOU "PASS the SALT" by LIXATOR

Measurement of salt by dry volume in shovels, pails or containers is *hit-or-miss* . . .

Measurement of salt by weight without regard to water absorbed during damp weather and long storage is *hit-or-miss!*

But measurement by saturated-brine volume is accurate . . . *because* each gallon of 100% saturated brine always contains 2.65 pounds of salt. The Lixate Rock Salt Dissolver always produces 100% saturated, crystal-clear brine, and eliminates inaccurate measurement by dry volume or weight.

Brine-strength control is sure when you start with 100% saturated brine from a Lixator. A definite volume of Lixate brine supplies a definite quantity of salt, and dilution to any desired degree is easy and accurate. The use of too much or too little salt as an exhausting agent is avoided. The exactly correct amount of salt needed can be most easily measured in the form of saturated brine eliminating uneven dyeing, spotty goods and white edges.

And remember, your Lixator also supplies crystal-clear, 100% saturated brine for zeolite water softeners.

Textile dyers everywhere report Lixate brine gives them more level dyeing, greater efficiency, and thoroughly accurate salt measurement.

JUST MAIL THIS COUPON

Get the whole story in our free booklet: "How Lixate Brine Solves the Problem of Accurate Salt Measurement."

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The LIXATE *Process*

FOR MAKING BRINE

★ ★ ★

INTERNATIONAL SALT COMPANY, INC.
Scranton, Pa.

The extensive line of

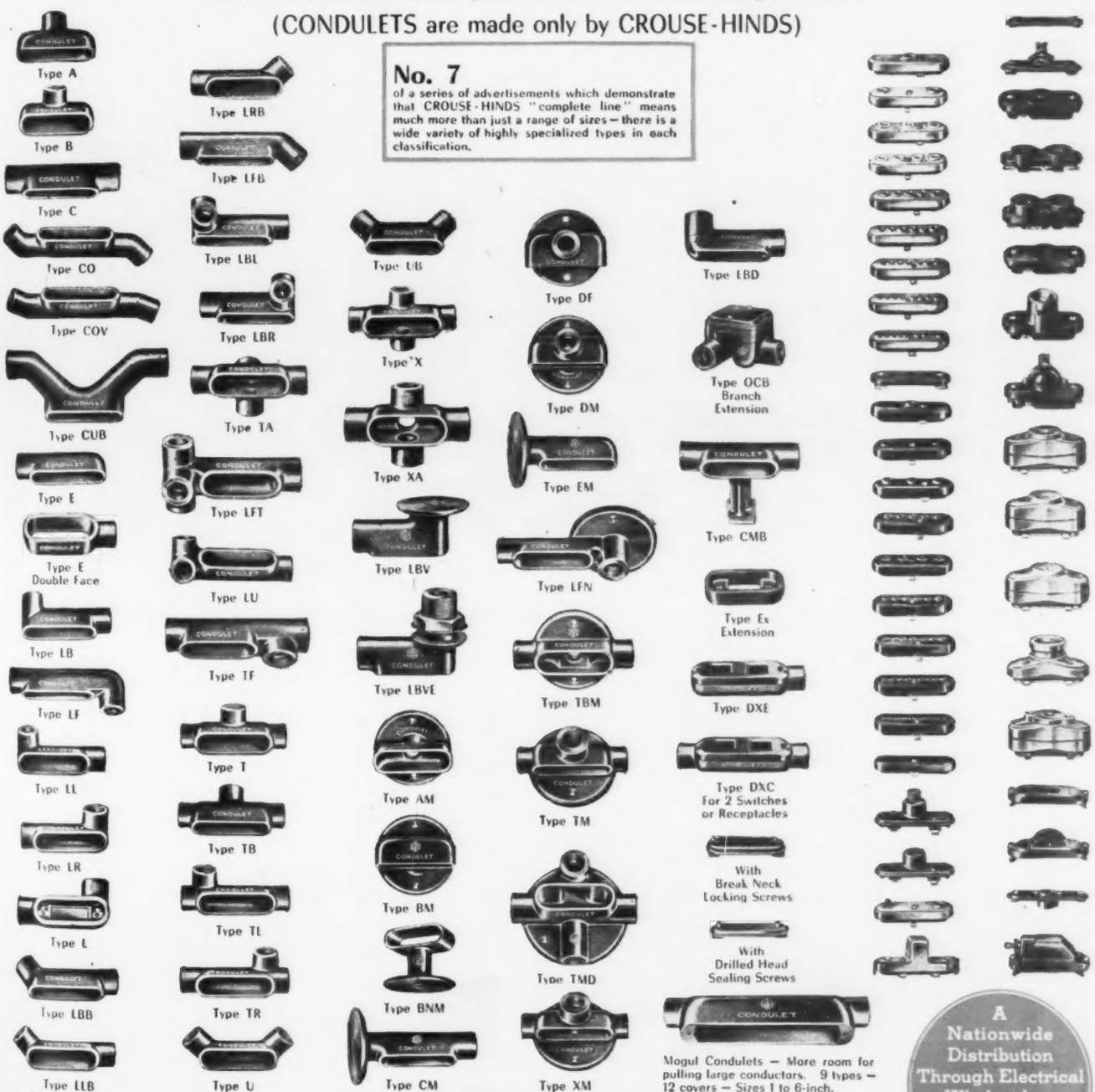
Obround CONDULETS

simplifies your installation problems.

51 types of bodies — sizes 1/8 to 6-inch — a wide selection of interchangeable covers and wiring devices.

(CONDULETS are made only by CROUSE-HINDS)

No. 7
of a series of advertisements which demonstrate that CROUSE-HINDS "complete line" means much more than just a range of sizes — there is a wide variety of highly specialized types in each classification.



Complete listings of each type are in Condulet Catalog No. 2500

A Nationwide Distribution Through Electrical Wholesalers

CROUSE-HINDS COMPANY
Syracuse 1, N. Y., U.S.A.

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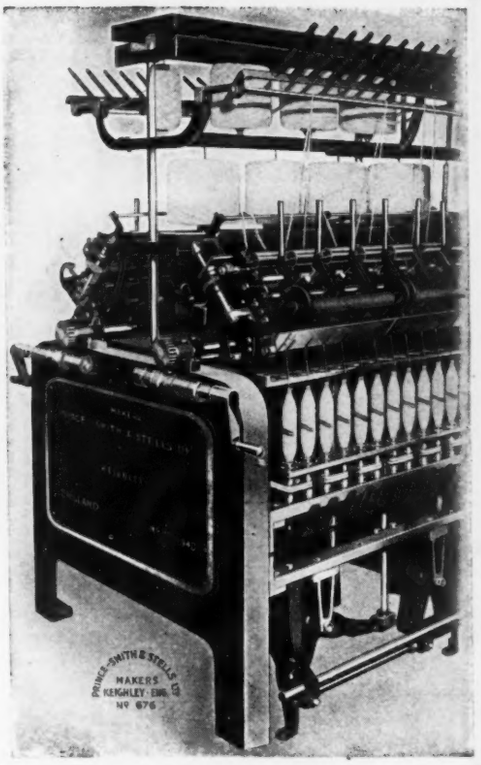
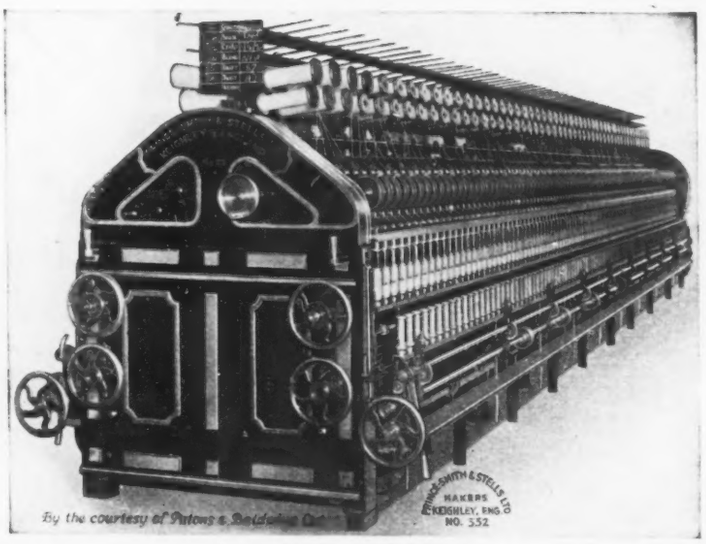
CONDULETS · TRAFFIC SIGNALS · AIRPORT LIGHTING · FLOODLIGHTS

WE ARE MAKERS OF
THE CONTINENTAL
AND ENGLISH—
SYSTEMS OF COMBING,
DRAWING, SPINNING
AND TWISTING



Ring Spinning Frame—Continental Type

WORSTED



Flyer Doffer Spinning Frame

THIS UNIQUE POSITION MEANS WE CAN OFFER YOU OUR SERVICES NO MATTER WHICH SYSTEM YOU ARE INTERESTED IN.

Sole Agents U. S. A. and Canada
ATKINSON HASERICK & CO.
211 Congress Street, Boston, Mass.

PRINCE-SMITH & STELLS LTD.

WORSTED MACHINERY MANUFACTURERS
KEIGHLEY (Yorkshire) ENGLAND

a top name in flannels ... uses

LAWRENCE SPINNA CALF

—the top name in roll covering

When you can be sure of a roll covering that has the right frictional surface required for smooth, sure drafting is non-sweating ... and will hold its shape and "body" despite the constant pressure and friction of the yarn ... there's no need to experiment.

Many "big name" mills insist that nothing takes the place of calfskin for fine spinning—and Lively Spinna Calf has become, through the years, the most generally used calfskin. Tell your roll coverer you want Spinna.

A. C. Lawrence Leather Company, Peabody, Mass.
Manufacturers of Lawrence Calfskins — *1st choice for aprons.*

Represented by H. H. Hersey, Greenville, S. C.

A. C. LAWRENCE LEATHER CO. TEXTILE LEATHERS PEABODY MASS

EVERY YEAR MORE PEOPLE DECIDE LEATHER IS BEST

BODY-BUILDER

IT PAYS TO KNOW *MORE* ABOUT

HERCULES

THAT WON'T WASH OUT!

THER HERCULES
TRIBUTION TO
TER TEXTILES

With the release of Hercules ethyl cellulose from war demands, emulsions made with this material are again available for permanent, yet economical, textile sizes and printing pastes. Used like starch, to give "body" to sheeting, curtains, marquisettes, laces, for example, these water-thinned emulsions will not wash out or dust out. After fabrics are laundered, the handle is effectively restored on ironing.

When applied to textiles, ethyl cellulose in emulsion form "breaks." Some of the water is absorbed by the fabric, and a viscous, non-penetrating, continuous lacquer phase is left on the surface. In this manner voids are bridged, and excellent sealing is obtained. Another application advantage is minimum fire hazard.

For printing compositions, these lacquer emulsions provide sharp, clear patterns that stay fixed. They give minimum build-up—even where designs are reversed or entail large areas of solid color.

Hercules produces the high-quality ethyl cellulose from which these emulsions are made. Return coupon for technical details and the names of manufacturers who can supply you with these new emulsions ready for use.

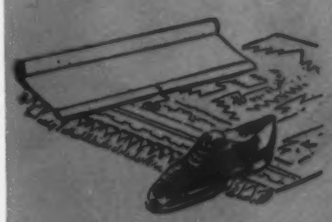
*Reg. U. S. Pat. Off. by Hercules Powder Company

HEMICAL MATERIALS FOR HE TEXTILE INDUSTRY

Other Hercules chemical materials for the textile industry include:

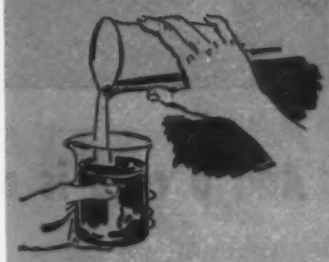
Chemical Cotton...
Basis for the toughest high-tenacity rayon for automobile tire cords and other industrial textiles.

Clorafin*...
Hercules low-cost chlorinated paraffin for flame- and water-resistant coatings for canvas and other textiles.

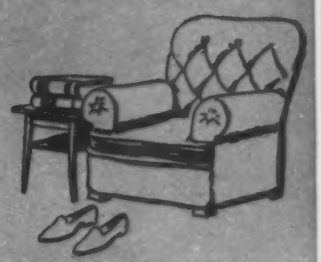


Flexalyn*...
An economical binder for corn and other starches for back-sizing carpets, shoe and tag cloth filling, window shades.

Pine Oil...
Yarmor* 302-W pine oil is a low-cost wetting agent and penetrant used in wet processing all textile fibers.



Terpesol* 8...
One of a series of solvents and plasticizers for textile chemicals. An excellent dispersant for pigments.



Nitrocellulose...
Hercules nitrocellulose and ethyl cellulose are the basis for rapid drying, durable, brilliant textile coatings.

FOR FURTHER DETAILS

HERCULES POWDER COMPANY
INCORPORATED
994 Market Street, Wilmington 99, Delaware

Please send names of manufacturers who can supply ethyl cellulose emulsions. Check here ( ) if you wish technical details.

*Name*_____

*Title*_____

*Company*_____

*Street*_____

*City*_____ *State*_____

T-62

A PUGILIST is no better than his HANDS

And a card is no better than its CLOTHING

"Brittle hands" have been the downfall of many a good pugilist and poor card clothing (or the wrong type of clothing) has wrecked the efficiency of many a good card.

Ashworth service representatives are practical card men, specially trained to help you select the right clothing for the purpose.

If you so desire, they will also inspect your cards (including clothing, bearings and chains), free of charge, at regular intervals, and will recommend a repair program that will involve minimum expense and minimum loss of productive time.

Write our nearest office for details

ASHWORTH BROS., INC.

AMERICAN CARD CLOTHING CO. (Woolen Div.)

Fall River*†‡ Worcester*‡ Philadelphia*†‡ Atlanta†‡
Greenville†‡ Charlotte†‡ Dallas†‡ (Textile Sply. Co.)

**Factory †Repair Shop ‡Distributing Point*

PRODUCTS AND SERVICES

CARD CLOTHING FOR COTTON, WOOL, WORSTED, SILK, RAYON AND ASBESTOS CARDS AND FOR ALL TYPES OF NAPPING MACHINERY • BRUSHER CLOTHING AND CARD CLOTHING FOR SPECIAL PURPOSES • LICKERIN WIRE AND GARNET WIRE • SOLE DISTRIBUTORS FOR PLATT'S METALLIC WIRE • LICKERINS AND TOP FLATS RECLOTHED • • • • • • • •

Ashworth PIONEERS IN CARD CLOTHING

3 FACTORIES • • • 6 REPAIR SHOPS • • • 7 DISTRIBUTING POINTS

WITH A Pick INSTANTANEOUS WATER HEATER

Lost time and floor space tack extra dollars on overhead expenses. And if you're planning now for the competitive days ahead it will pay you to check these three cost saving features of the PICK INSTANTANEOUS HEATER. (1) *Instantaneous hot water* — no waiting for water to heat — quick, quiet steam injection provides hot water instantly at the twist of a valve. (2) *No storage space* — quickly and easily connected right to the wall, no floor space lost, there are no tanks to repair or replace. (3) *Reduced investment cost* — choice of seven sizes enables you to pick the right heater for the job.

Designed with the exclusive PRESSURIZER PISTON, to stabilize injection pressure, this heater insures quiet steam injection heating and maximum operating efficiency.

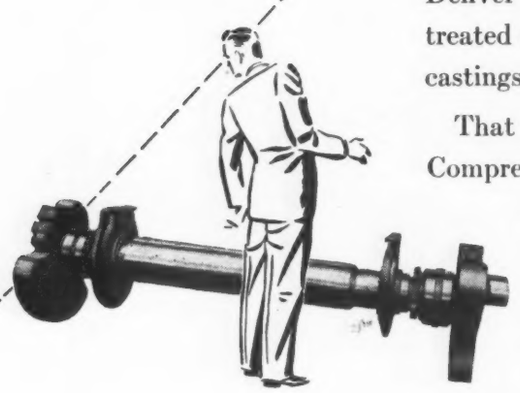
For complete information and specifications write
THE PICK MFG. COMPANY, Dept. 1706, West Bend, Wisconsin

For All Industrial Applications

- **PRIMARY HEATER**
  Capable of supplying any specified volume of hot water up to 200 gallons per minute, this heater is practical as a primary source of hot water for countless industrial needs.
- **SUPPLEMENTARY HEATER**
  Easy installation and accurate control at any temperature up to 180° Fahrenheit make this heater useful for specialized "spot" applications near the point of use.
- **"BOOSTER" HEATER**
  To augment overloaded or currently inadequate facilities this heater can be installed to automatically "boost" and correct temperature deficiencies.

Pick HOT WATER HEATERS

Made by **PICK MANUFACTURING CO.**
WEST BEND, WISCONSIN, U. S. A.



Here is the main crankshaft of a Gardner-Denver Class "HA" Horizontal Air Compressor. Notice those Timken roller main bearings—an exclusive Gardner-Denver feature. The shaft is a steel forging, heat treated and finished all over. The crank discs are steel castings and counterweights are cast integral.

That crankshaft tells you a lot about an "HA" Compressor—because it is typical of the kind of construction used throughout. That's why the "HA" is a *heavy-duty* compressor in every sense of the word. That's why it gives year after year of continuous service—24 hours a day if you like—with a bare minimum of maintenance.

You can learn a lot about a compressor from its crankshaft!

If you're looking for a compressor that's a standout for service—and a miser on costs—write Gardner-Denver Company, Quincy, Illinois; Atlanta, Ga.; Birmingham, Ala.; Boston, Mass.; Hazleton, Pa.; Knoxville, Tenn.; Washington, D. C.; New York, N. Y.; Philadelphia, Pa.; Pittsburgh, Pa.

OTHER "HA" FEATURES

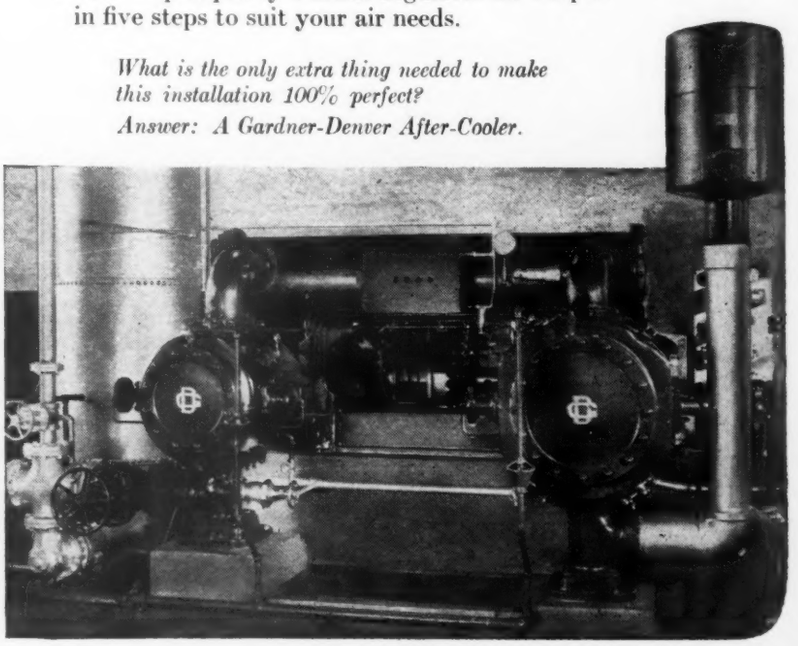
- Air cylinders designed for highest volumetric efficiency and lowest horsepower requirements.
- Large water jacket areas for cooler-running . . . lower discharge temperatures and lubricating economy.
- Duo-plate "cushioned" valves for high delivery capacity, high compression efficiency and lowest power consumption.
- Five-step capacity control regulates air output in five steps to suit your air needs.

What is the only extra thing needed to make this installation 100% perfect?
Answer: A Gardner-Denver After-Cooler.

GARDNER-DENVER

Since 1859

USE COMPRESSED AIR FOR SAFETY CONVENIENCE FLEXIBILITY



Gardner-Denver Class "HA" Two-stage Horizontal Compressor. Available in capacities from 316 to 2012 cubic feet displacement per minute.

COOPER'S 25 YEARS

. . . and what they mean to users of Stainless Steel Castings

The quarter century spent by Cooper in specialized study of stainless steel castings is strongly reflected in the company's ability to produce sound castings—and to give equally sound advice on their application. Over such a long period, it was inevitable that this ability of Cooper's to produce a superior product would become known to industry everywhere—with the natural result that Cooper's business growth has been phenomenal.

To you, as a user of stainless steel castings, Cooper's 25 years—and Cooper's present size—represent important values not elsewhere available.

Cooper's quarter century gives you the benefit of an experience dating from the earliest days of chromium-iron castings in this country—an experience that sweeps through the multitude of developments in casting techniques, metallurgical controls and inspection with X-rays, Gamma rays and Ultra Violet rays—an experience embracing the inception of and continued improvements in machine molding, sand control, heat treatment, centrifugal casting and machining methods.

Cooper's size—it's the largest exclusive stainless steel foundry in the country—gives you an added measure of experience—breadth. The organization is large enough to include, as it does, *all* the highly specialized knowledge required to give you the best in castings and the best advice on their application.

Whenever you need stainless steel castings, we sincerely believe it will pay you to get in touch with Cooper.

THE COOPER ALLOY FOUNDRY CO.

215 Bloy Street, Hillside, N. J.

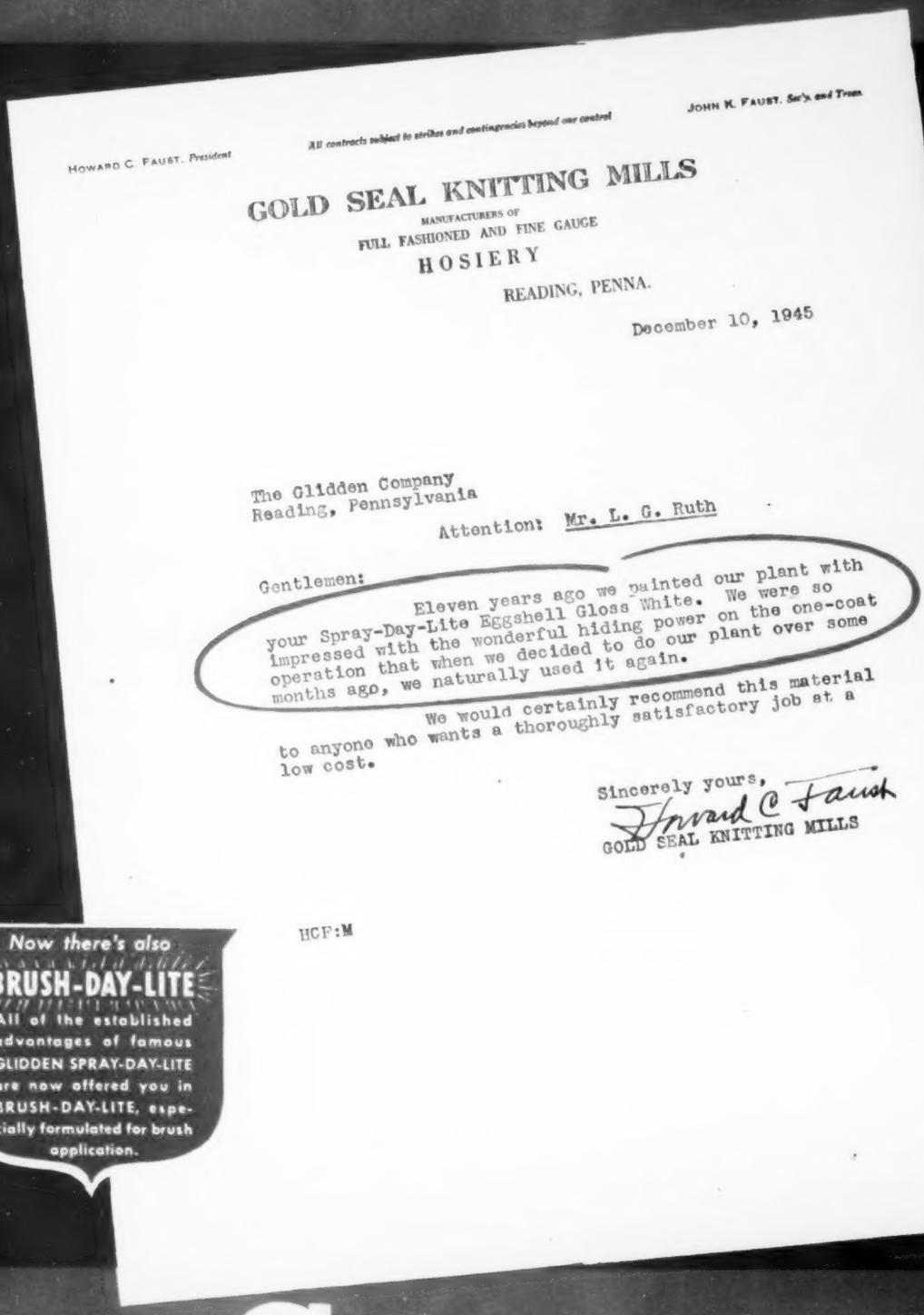
CA-106

THE *Cooper* ALLOY FOUNDRY CO.

STAINLESS • MONEL • NICKEL

One coat lasts ELEVEN long years!

Read about the amazing performance of . . .



HOWARD C. FAUST, President — All contracts subject to strikes and contingencies beyond our control — JOHN K. FAUST, Sec'y and Treas.

GOLD SEAL KNITTING MILLS

MANUFACTURERS OF
FULL FASHIONED AND FINE GAUGE
HOSIERY

READING, PENNA.

December 10, 1945

The Glidden Company
Reading, Pennsylvania

Attention: Mr. L. G. Ruth

Gentlemen:

Eleven years ago we painted our plant with your Spray-Day-Lite Eggshell Gloss White. We were so impressed with the wonderful hiding power on the one-coat operation that when we decided to do our plant over some months ago, we naturally used it again.

We would certainly recommend this material to anyone who wants a thoroughly satisfactory job at a low cost.

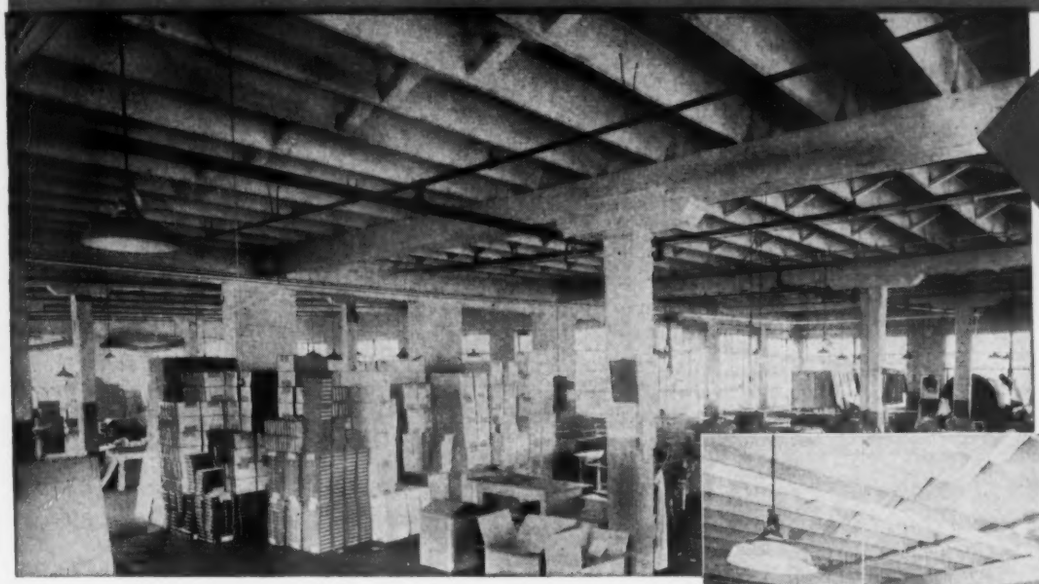
Sincerely yours,
Howard C Faust
GOLD SEAL KNITTING MILLS

HCF:M

Now there's also
BRUSH-DAY-LITE
All of the established advantages of famous GLIDDEN SPRAY-DAY-LITE are now offered you in BRUSH-DAY-LITE, especially formulated for brush application.

Glidden

SPRAY-DAY-LITE



ONE-COAT JOB AFTER 11 YEARS

REPAINTED MILL— READY FOR MANY MORE YEARS OF SERVICE!

No Other Maintenance Paint Offers Textile Mills All These Advantages of Glidden SPRAY-DAY-LITE . . .

1. SPRAY-DAY-LITE gives conventional two-coat results in only one coat.
2. Increases lighting efficiency by giving *maximum* light reflection and diffusion.
3. Provides smooth, solid covering over grimy, dirty and badly discolored surfaces of almost any type.
4. Its intense white does not yellow with age —also available in 10 beautiful colors.
5. Durable, egg-shell finish eliminates eye-straining glare—washes like tile.
6. Sprayed or brushed, it does not sag or run; produces little fog or mist when sprayed.

THE GLIDDEN COMPANY, Dept. A-6
11001 Madison Ave., Cleveland 2, Ohio

☐ You may send your new SPRAY-DAY-LITE Color Chart showing the 10 beautiful shades and suggested color combinations.

☐ You may have representative call and demonstrate SPRAY-DAY-LITE in our premises without obligation on our part.

NAME _____

COMPANY _____ TITLE _____

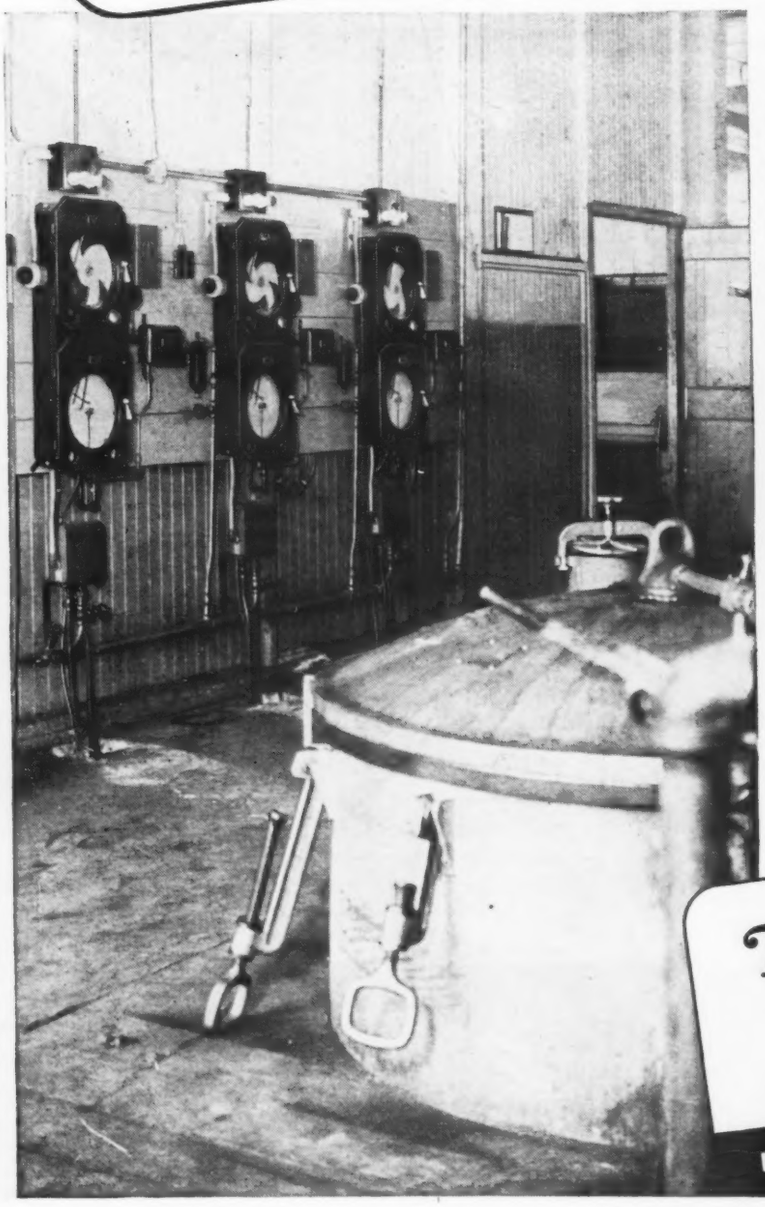
ADDRESS _____

CITY AND STATE _____

TIME-TESTED

Pacemaker in Paints

How to make 1 Taylor Instrument do the work of 3



IF IT weren't for those Taylor Fulscope Time Schedule Controllers you see on the back wall, this nationally known woolen mill would be doing it the hard way. Instead of these three compact instruments, they'd need *nine*—a separate Recorder, a Process Timer, and a Flex-O-Timer for each of their three Franklin Package Dye Machines (one of which is shown in the foreground).

As it is, they have a less expensive, less complicated, more adaptable system than ever before. A system that even the greenest operator can quickly understand. All he has to do is push a button. Taylor Accuracy does the rest.

One important feature is *automatic flow reversal* to insure uniform dyeing of yarn packages. Signal lights indicate direction of flow throughout the cycle.

This system can speed up your whole dyeing operation . . . and give you important savings in steam and dyestuffs. Above all, it enables you to repeat a schedule at any time with assurance of uniformity. How about calling your Taylor Field Engineer and getting all the dope? Taylor Instrument Companies, Rochester, N. Y., and Toronto, Canada.

Instruments for indicating, recording, and controlling temperature, pressure, humidity, flow, and liquid level.

Taylor Instruments
MEAN
ACCURACY FIRST
IN HOME AND INDUSTRY

a new challenge to knitting that calls for

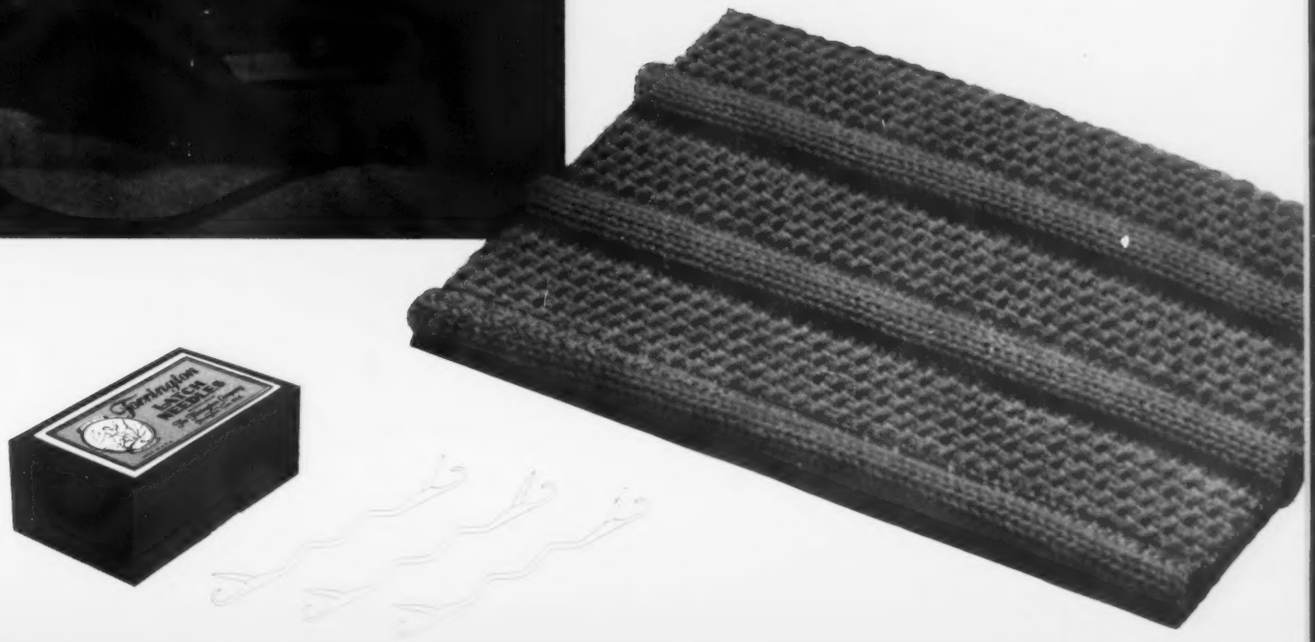
TORRINGTON NEEDLES

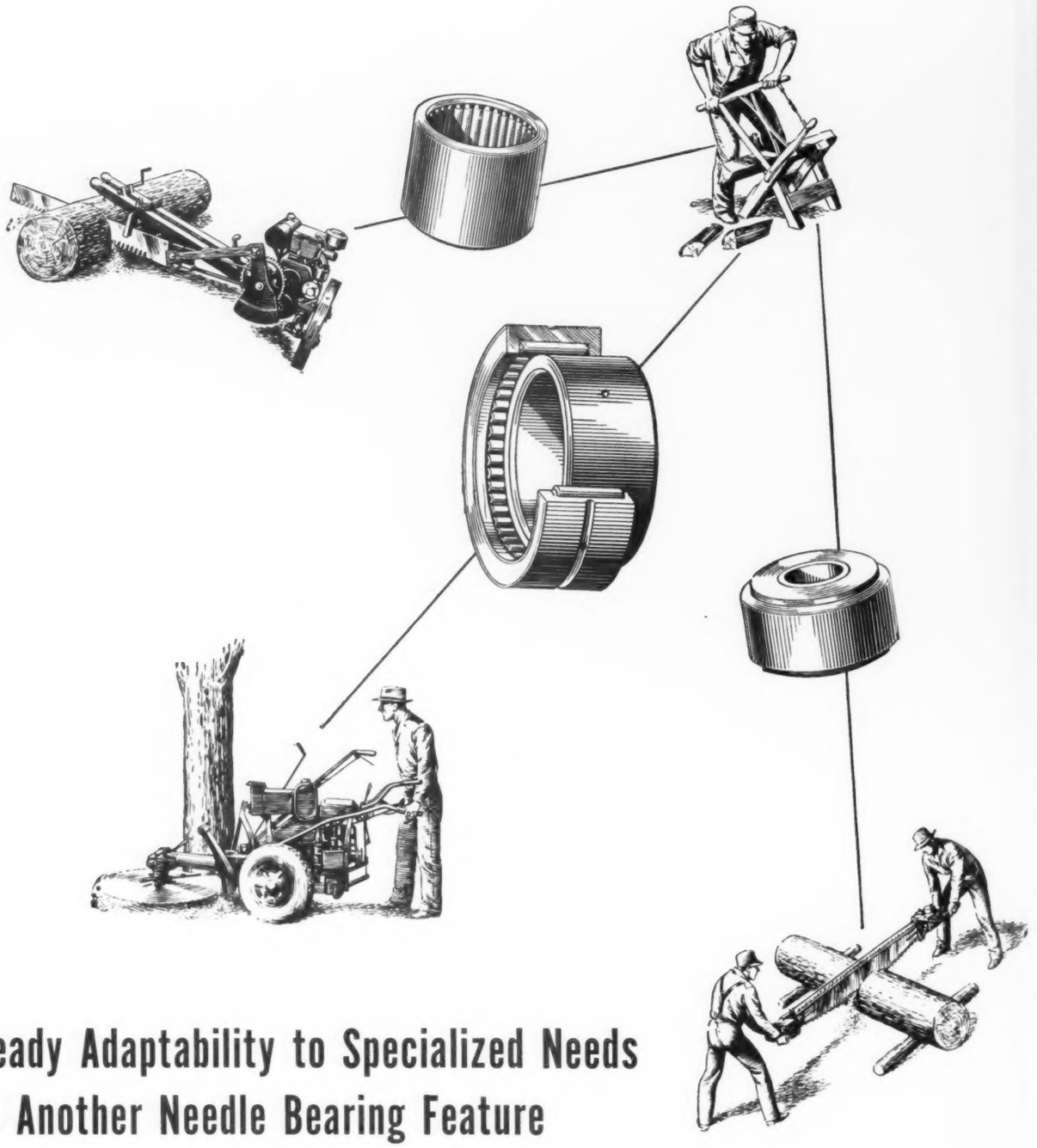
THE INCREASING DEMAND for quality and variety in sports hosiery is a challenge to originality on the part of the designer and fine craftsmanship on the part of knitting mills. It also calls for utilization of the best equipment available.

Good needles are particularly essential in the production of fine fitting, durable hose and the achievement of clearly defined patterns and effects. Here is where the machine-controlled temper, finish and dimensional accuracy of Torrington Needles offer definite advantages. Whatever type of knitting you do, there's a Torrington Needle to meet your requirements.

TORRINGTON
Latch Needles

THE TORRINGTON COMPANY
Established 1866
Torrington, Conn., U.S.A.
Branches: New York • Philadelphia • Chicago
Greensboro, N. C. • Boston • St. Louis • Toronto, Canada





Ready Adaptability to Specialized Needs is Another Needle Bearing Feature

Major design changes are seldom necessary to gain all the advantages of anti-friction Needle Bearings. The Needle Bearing principle of a full-complement of small diameter needle rollers which gives increased load capacity and longer service life is widely applicable. And the Torrington line includes a type and size that is engineered to meet virtually every requirement of modern space-plus-weight-saving designs.

Thousands of outstandingly successful applications have been made where only slight modifications of existing designs and shop practice have enabled manufacturers to improve product efficiency —and often with resulting cost savings.

Let us give you more details on some of these applications in your own field. Full technical data and many applications are given in the Torrington Needle Bearing Catalog No. 32, available upon request. And our engineering staff will be glad to give every assistance in the layout of specific Needle Bearing applications designed to meet *your* requirements.

THE TORRINGTON COMPANY
TORRINGTON, CONN. SOUTH BEND 21, IND.
Offices in All Principal Cities

TORRINGTON NEEDLE BEARINGS

"We Couldn't Afford to be without MOBILIFT"

In every step, from bale to bolt, materials movement steps up and production costs come down when Mobilift is installed in the mills. Mobilift makes your manpower many times more productive. By eliminating rehandling, it speeds up materials movement. It enables you to take full advantage of every foot of storage space. These savings of manpower, time and space have helped textile mill executives to cut production costs. Let our engineers show you how quickly a Mobilift system will pay for itself in your mill.

SALES OFFICES:

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2430 South Parkway, Chicago 16, Ill.
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MOBILIFT *Moves Materials like a Giant!*

VAUGHAN MOTOR COMPANY ★ 835 S. E. Main Street, Portland 14, Oregon

FOR LOW POWER CONSUMPTION

LILY WHITE OILS
ON SPINDLES

REDUCTION of power costs results from use of the right spindle oils, properly applied. SINCLAIR LILY WHITE OILS are finely finished lubricants possessing high stability characteristics to resist deterioration . . . increased body and deposits . . . during service. Use of the proper grade assures *continuous* low power consumption because there is no increased friction drag to cause power loss.

BESIDES contributing to low power consumption SINCLAIR LILY WHITE OILS help reduce maintenance cost by promoting long bolster life. Their worth was proven in many plants during the war years when mills were operating at top capacity and replacement parts were difficult to obtain. LILY WHITES come in viscosities to suit all operating speeds. Our lubrication counsel is available in solution of your problems.

SINCLAIR TEXTILE LUBRICANTS

FOR FULL INFORMATION OR LUBRICATION COUNSEL WRITE SINCLAIR REFINING COMPANY, 630 FIFTH AVENUE, NEW YORK 20, N. Y.

"Let's Check with Flintkote..

—they helped us before on other tough problems...

...and we haven't had any trouble with those jobs since.

Say, didn't the Flintkote engineer tell us they made a full line of materials for cementing, laminating, coating, impregnating and saturating?"

"That's right, he did...and we sure can stand some help on this combining and laminating job."

• • •

Today in the textile industry you'll find Flintkote coatings, sizings and adhesives serving in a wide variety of applications. Many of these found their places after Flintkote Service Technicians had thoroughly studied the conditions, and with the help of the Flintkote Research Laboratory evolved a better, quicker or less expensive way of doing the job.

These specialists are available to you at all times. Write for full information.

Flintkote-Products for Industry

THE FLINTKOTE COMPANY · INDUSTRIAL PRODUCTS DIVISION
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FLINTKOTE INDUSTRIAL PRODUCTS

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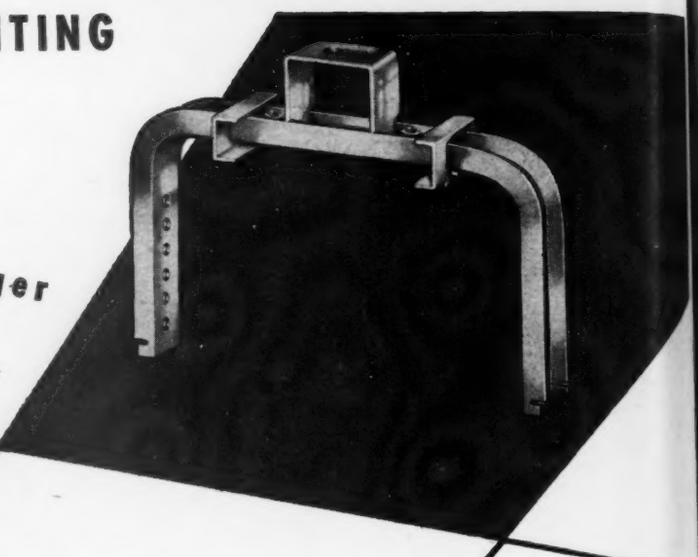
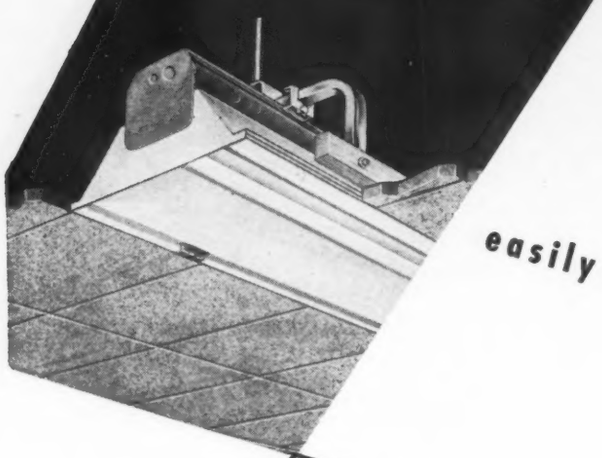
NEW ORLEANS · WASHINGTON · TORONTO · MONTREAL

for VERSATILITY in LIGHTING



this Miller Hanger



easily installed

creates

CEILINGS UNLIMITED

Miller Fluorescent Troffer Lighting Systems for stores, offices, schools, factories and public buildings

THE MILLER COMPANY • MERIDEN, CONNECTICUT

ILLUMINATING DIVISION
Fluorescent, Incandescent Mercury Lighting Equipment

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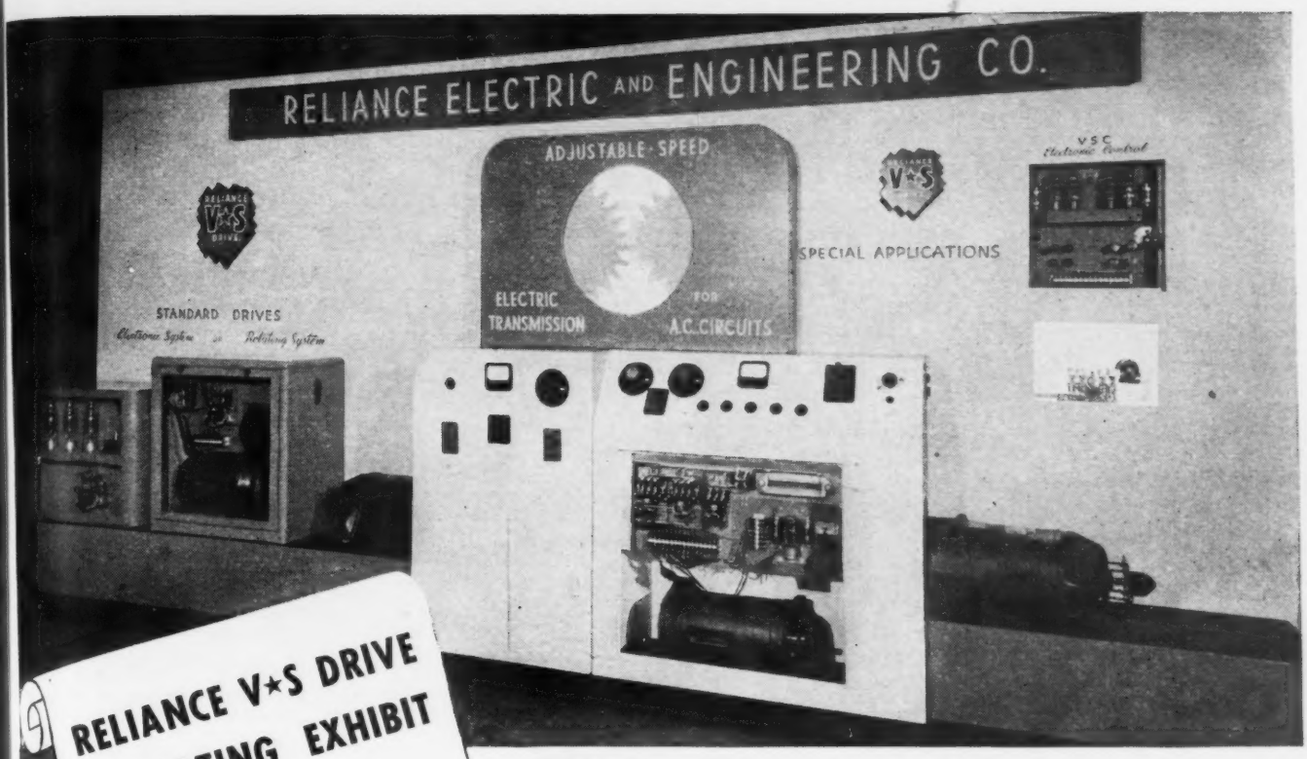


RELIANCE V★S DRIVE OPERATING EXHIBIT

as originally prepared for the Southern Textile Exposition at Greenville, S. C.

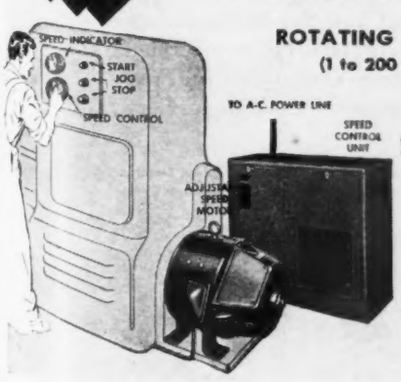
You can do Textile Mill Jobs *better* with Reliance V★S Drive

V★S—*the All-electric, Adjustable-speed Drive operating from A-c. Circuits*—provides unlimited flexibility of machine operation. Easy and instant control of speed assures the proper operating rate for any material. Starting, stopping and speed changing are smooth and can be controlled manually or automatically, from nearby or remote stations. Proper tension is automatically maintained.

You can't match V★S Drive results in cloth-printing machines, continuous bleaching ranges, finishing ranges, beamers, slashers and other textile mill equipment. See for yourself—call in a Reliance Application Engineer from our nearest office.

AN ALL-ELECTRIC ADJUSTABLE SPEED DRIVE for A-c. Circuits

ROTATING SYSTEM
(1 to 200 hp.)



Also available in ELECTRONIC SYSTEM
(1 to 5 hp.)

RELIANCE ELECTRIC & ENGINEERING CO.
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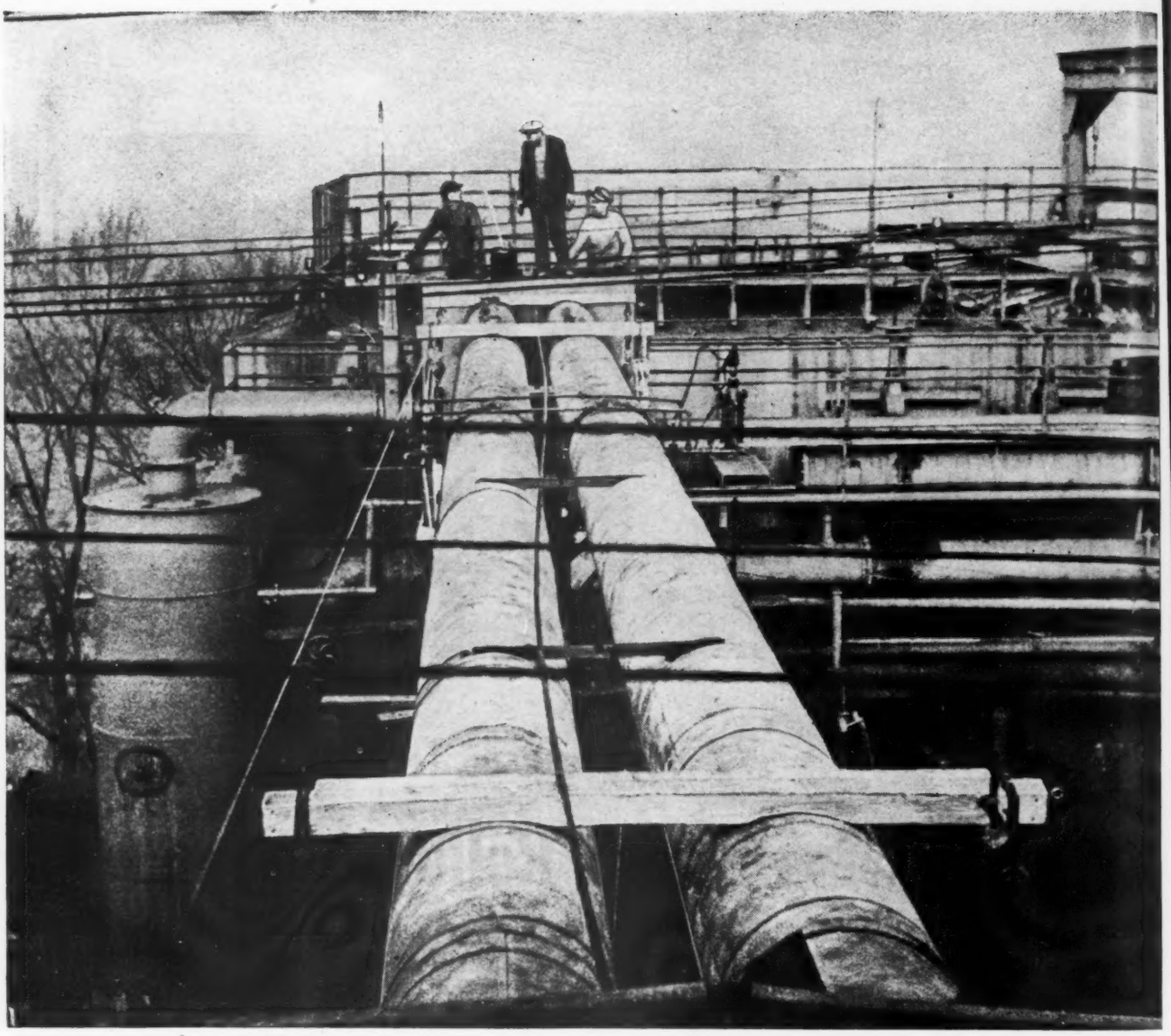
RELIANCE A-C D-C MOTORS

"Motor-Drive is More Than Power"



HOW FIBERGLAS* BEAT THE WEATHERMAN

Predictions of "continued cold" can mean serious trouble—unless pipes are adequately insulated. Fiberglas Industrial Insulation, furnished in forms to meet every interior and exterior requirement, is helping industry avoid the costly effects of weather changes and extremes.

During a natural gas shortage, a West Virginia concern built its own gas-producing unit. Efficient operation was aided by the application of Fiberglas insulating blankets, pipe covering and insulating cement. Moisture condensation in two 18-inch gas lines, which had caused severe pressure drops, was eliminated by insulating more than a mile of lines with Fiberglas pipe insulation. And this same highly efficient thermal insulation, installed on outside water lines, prevented freezing.

The illustrated booklet, "Fiberglas Insulations for Industry", will give you complete information about all of the forms of Fiberglas Industrial Insulation materials. Write for your copy today. Find out how this better material can help you "beat the weatherman" and save money. *Owens-Corning Fiberglas Corporation, 1864 Nicholas Bldg., Toledo 1, Ohio.*

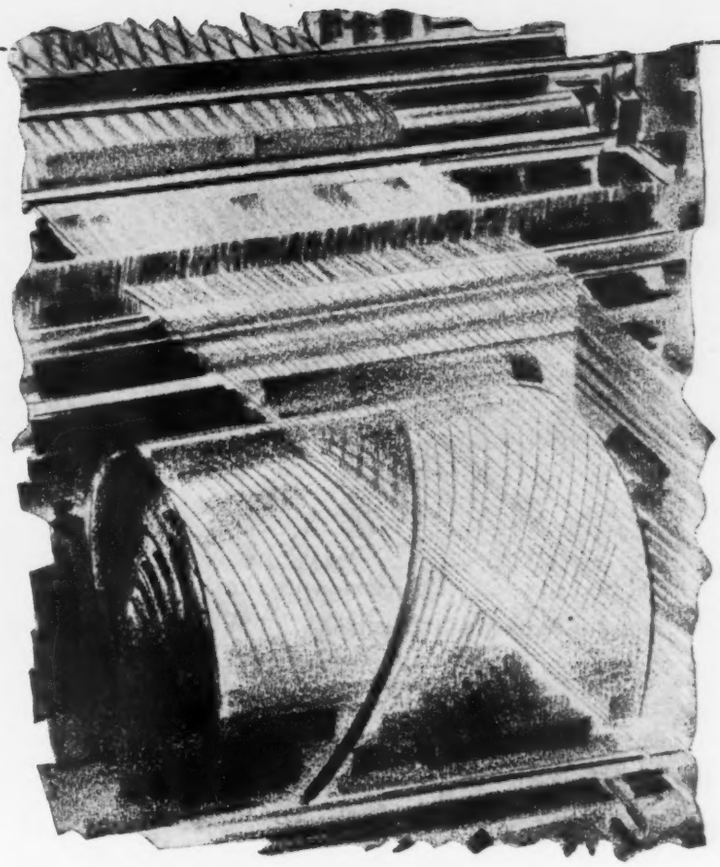
In Canada, Fiberglas Canada Limited., Oshawa, Ontario.

FIBERGLAS

*T. M. Reg. U. S. Pat. Off.

OTHER FIBERGLAS PRODUCTS: ELECTRICAL INSULATION MATERIALS DUST-STOP* AIR FILTERS FIBERGLAS YARNS AND CLOTHS FIBROUS GLASS MATS

"Reduced drag ...with Tycol spindle oil"



"Not a single tube lost . . .
Reduces spindle drag . . .
Reduces bolster losses . . .
Steps up production . . .
Cuts down on maintenance costs . . ."

– says a textile mill operator. "With Tycol Spindle Oil," he goes on, "we're able to operate continuously at top speed — and we don't have to worry about the oil losing its body at operating temperatures."

For further information about Tycol Spindle Oil, get in touch with your nearest Tide Water Associated Dealer.

LUBRICATION — "ENGINEERED TO FIT THE JOB"

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INDUSTRIAL LUBRICANTS

Boston • Charlotte, N. C.
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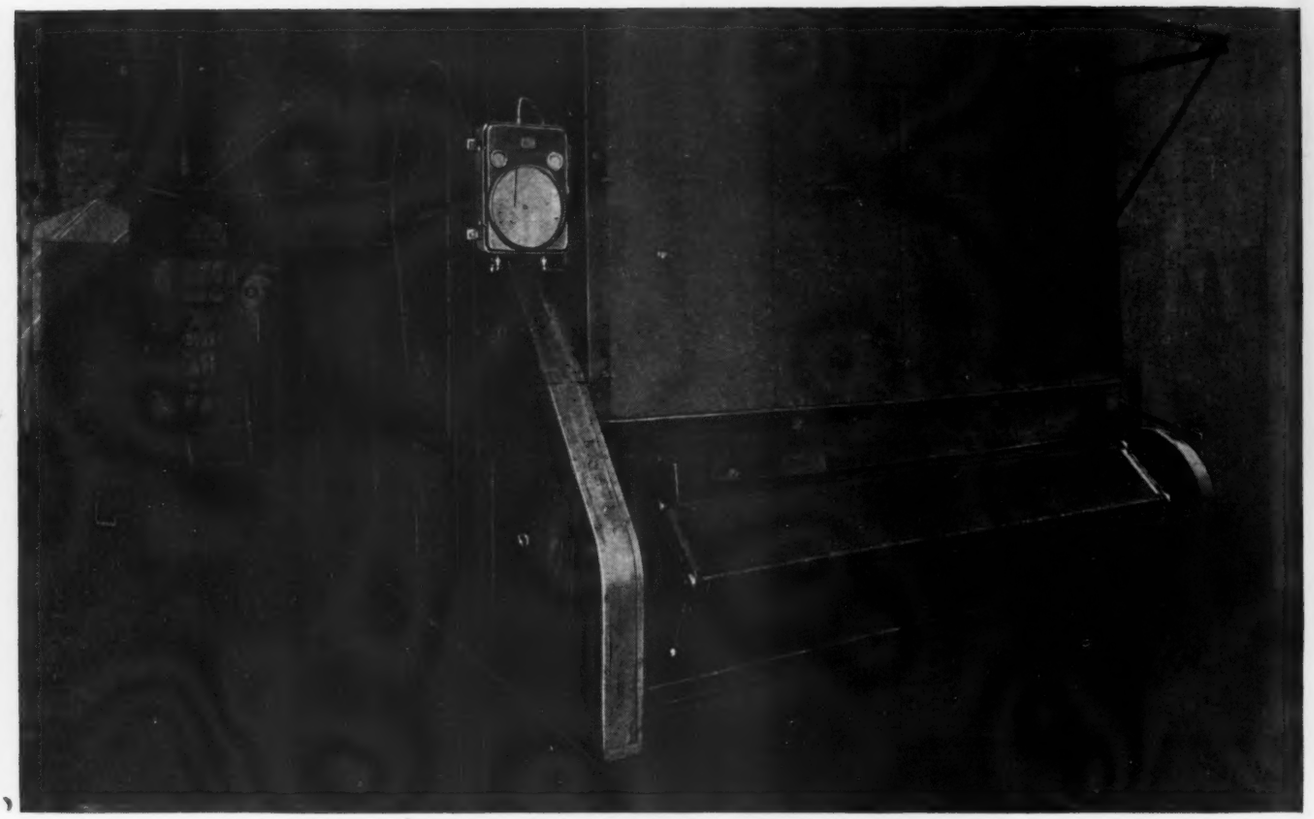
TIDE WATER ASSOCIATED OIL COMPANY
17 BATTERY PLACE • NEW YORK 4, N. Y.

BETTER DRYING . . .



. . . *paid for by the steam saved!*

Better control of moisture content and strength of the goods are the principal reasons for using automatic temperature control . . . but when the controllers pay for themselves quickly out of the steam saved . . . such control is almost a necessity.

At a Pennsylvania woolen goods mill, a Bristol Free-Vane Temperature Controller on a wool dryer not only improved quality but also reduced costs. The saving in steam paid for the instrument in two weeks!

Another mill reports: "The improvement in quality is so great, we would continue to use The Bristol Controller, even if steam costs had been increased instead of decreased."

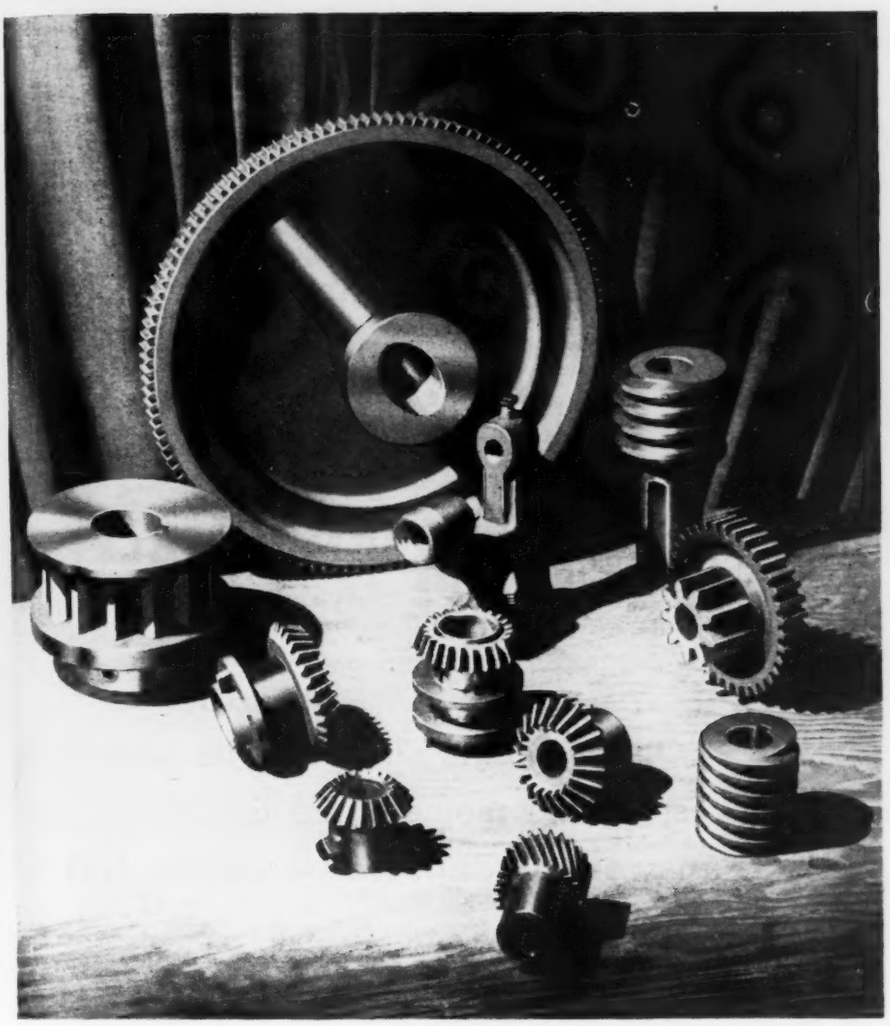
Write today for free Bulletin T 800 on Temperature Controllers, addressing The Bristol Company, 157 Bristol Road, Waterbury 91, Conn. (The Bristol Co. of Canada, Ltd., Toronto, Ont. Bristol's Instrument Co. Ltd., London, N. W. 10, England).

Other Bristol Automatic Controllers and Recorders for Textile Purposes

1. Recording Temperature Controllers for Bleach Kiers.
2. Continuous pH Controllers and Recorders.
3. Humidity Recorders for Carding, Combing, Drawing, Spinning, and Weaving.
4. Automatic Temperature Controllers for Mercerizers.
5. Power Plant Instruments.
6. Tachometers for Yardage through Tentering Dryer.
7. Automatic Control for Dye Jigs, Dye Machines and Dye Kettles.
8. Flow Meters for Measuring Steam to each Department.
9. Automatic Control for Washing and Bleaching Equipment.
10. Slasher Control Systems.

Engineers process control for better products and profits

AUTOMATIC CONTROLLING AND RECORDING INSTRUMENTS



Specify Henderson!

- **Complete foundry and machine shop facilities, experienced personnel, and engineering "know how" for the Quality-Controlled manufacture of all your repair part needs.**

- **Every Henderson precision-built replacement part has these combined advantages . . . closely supervised, modern molding and melting practices, accurate machining to a guaranteed fit, and engineering to exact specifications. These standard Henderson procedures on every job assure longer casting life, higher speeds, stepped-up production schedules and a more efficient, trouble-free operation throughout your mill.**

Over a Quarter of a Century of specialized experience in service to the Textile Industry. We invite your inquiry.

Henderson FOUNDRY & MACHINE CO.

HAMPTON, GEORGIA

Better than Original REPLACEMENT PARTS *for Textile Machinery*

Otis elevators, Otis escalators, Otis trained men and the facilities of the manufacturers of more than half of the world's elevator equipment are all available to assist you or your Architect in solving any vertical transportation problem.

TRANSPORTATION PROBLEM?

Otis Passenger Elevators with up-to-date dispatching methods are the recognized answer to congested elevator traffic conditions.

Otis Escalators are used where large numbers of persons are to be carried from floor to floor in comfort and without crowding.

Otis Freight Elevators with a variety of control systems are designed to satisfy the most exacting requirements of floor to floor freight handling.

For the most efficient and economical service in vertical transportation — for a few stories or many — call your nearest Otis Representative today.

Otis ELEVATOR COMPANY
OFFICES IN ALL PRINCIPAL CITIES

For Motor Protection That Keeps Machines Running

Use 1 of These 4 Century Motor Types

The four types of Century motors shown here are designed to resist the dangers of hazardous atmospheres as described below. As a result they keep machines operating, keep shutdowns to a minimum on such equipment as — pumps, blowers, cooling towers, processing machinery, dye house equipment, textile finishing machinery, dryers, and bleaching equipment.

Form J — open rated, general purpose motor — meets the needs for most installations where operating conditions are relatively clean and dry. The top half of the motor frame is closed to keep out falling solids or dripping liquids.

Splashproof motor — gives the necessary protection where plants must be washed down — keeps water out of the motor even when a hose is applied directly on the frame. It also provides protection against rain, snow, sleet, and ice for outdoor installations.

Totally Enclosed Fan Cooled motors — protect against dust, dirt, grit, abrasives, mist, or fog that would destroy the vital operating parts of the motor. The inner frame protecting the motor is sealed to keep out harmful matter.

Explosion Proof motors — protect against atmospheres charged with explosive dusts or gases. See specifications for specific kinds of explosive hazards.

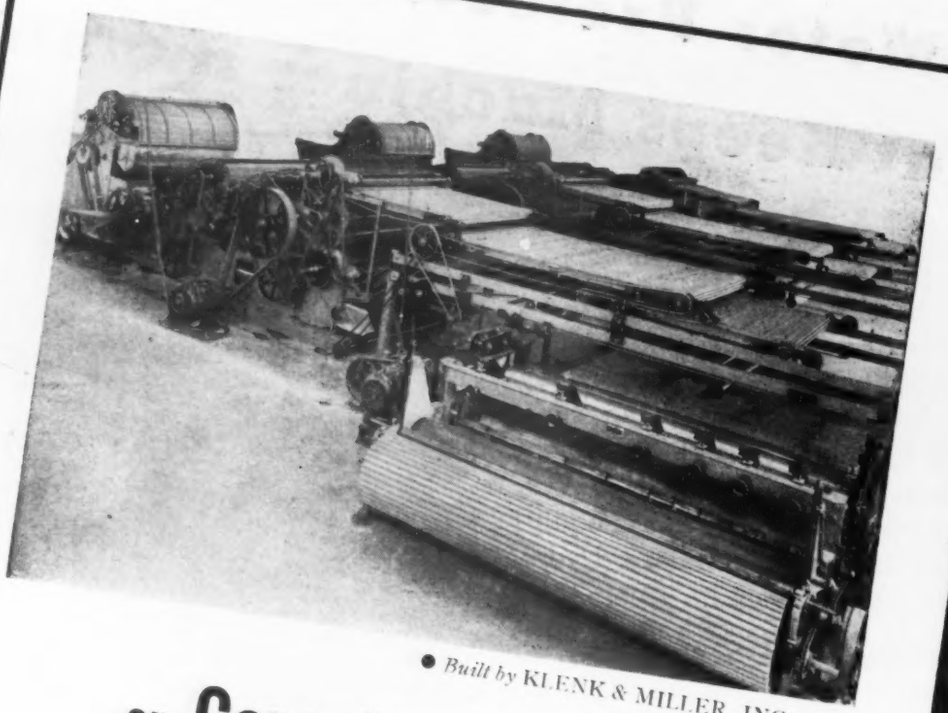
For complete information on these and many other motor types to best meet your operating conditions, call in a Century engineer today. Century motors are built in sizes from 1/20 to 600 horsepower.

Century C MOTORS

CENTURY ELECTRIC COMPANY

1806 Pine Street • St. Louis, 3 Mo.

Offices and Stock Points in Principal Cities



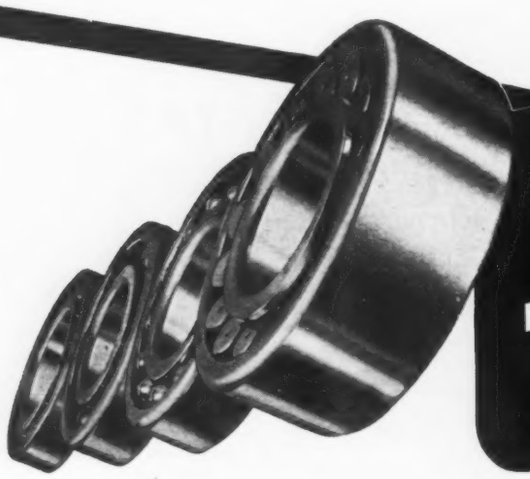
● *Built by* KLENK & MILLER, INC.

on Garnetts that operate economically

The adoption of SKF Ball Bearings on Garnetting Machinery helped manufacturers to comb out all their waste from cards, mules, spinning frames, etc., and to restore it to the original fibre at low operating expense. In addition, SKF Bearings increase production by running smoothly, steadily and cool . . . provide ***rolling alignment*** that allows for shaft deflections, distortions or weave. With SKF housings to prevent oil from leaking onto stock, belts, card clothing, etc., clean stock is assured, belt renewals are reduced to a minimum and there is no deterioration of clothing from oil rotting the card clothing backing. Since SKF makes many types of antifriction bearings, ask an SKF engineer to give you expert help in your bearing selection.

5987

SKF INDUSTRIES, INC.
Front St. & Erie Ave., Phila. 34, Pa.



SKF
Puts the RIGHT BEARING in the RIGHT PLACE

FOR CLOSER COLOR CONTROL—
FOR FASTER CHANGE-OVERS—
FOR FEWER "SECONDS"—

nothing equals Stainless Steel!

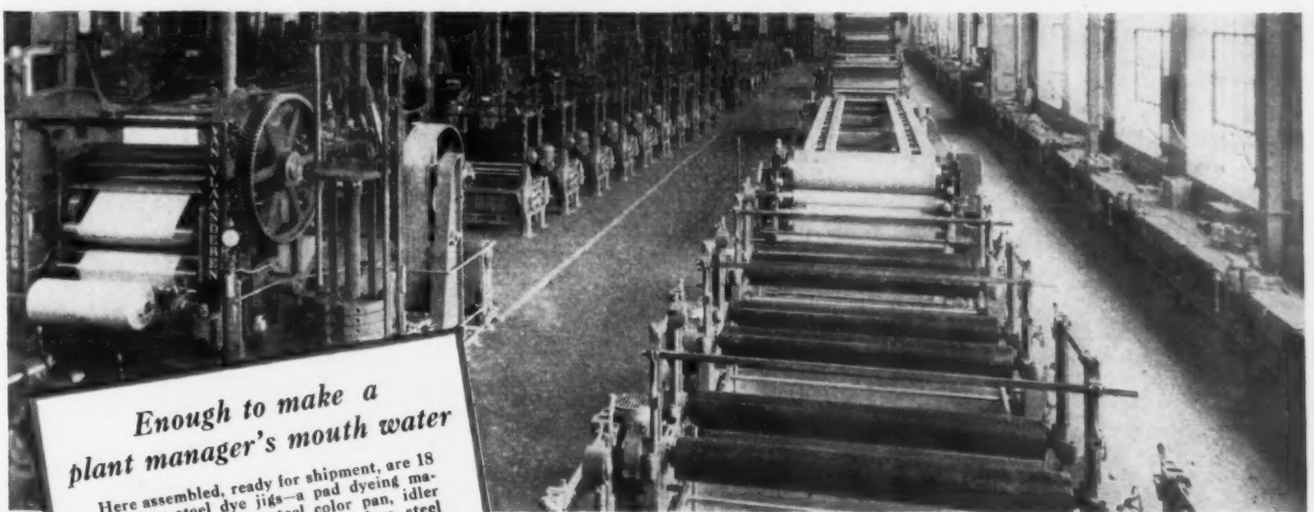
We asked the manager of a large, long-established plant in North Carolina why so much of his dyeing and finishing equipment was made of Stainless Steel.

HERE IS HIS ANSWER:

"Before investing in Stainless Steel equipment we must first justify the additional investment and these are the ways we do it:

1. **"We can change a Stainless Steel tank from green to white in ten minutes. It used to take hours, or even days, when we used wooden or corrodible tanks. That's important, because the only time a machine is making money is when it's working.**
2. **"With Stainless Steel we get truer shades. Dye stuffs are usually unstable chemical compounds, often seriously affected by even a slight reaction with the container. Because Stainless is inert to practically all dyes, soaps or bleaching agents, it will not contaminate dye baths. As a result, Stainless Steel equipment changes shades less than any known metal.**
3. **"Copper sulphate stains, or 'canker', that can ruin thousands of yards of cloth can't happen when dye jig rolls are made of Stainless Steel.**
4. **"And here's why we use Stainless Steel tenter clips on our continuous tentering machines. Unless these clips are free from corrosion that would stain the fabric, unless they are free from excessive wear that would prevent them from holding firmly, the result is a faulty finishing job which would have to be sold as a 'second'."**

All these money-saving benefits of Stainless Steel you will find at their best in U·S·S Stainless—a perfected, time-tested steel. War production has greatly advanced our knowledge of Stainless Steel, has taught us many new ways in which to enhance its inherent advantages. Our engineers will gladly put this information at your service. Both users and builders of textile machinery will find their assistance extremely helpful.



Enough to make a plant manager's mouth water

Here assembled, ready for shipment, are 18 stainless steel dye jigs—a pad dyeing machine with stainless steel color pan, idler rolls, etc.—a tenter, using stainless steel automatic tenter clips—and an 8-can stainless steel dryer.

U·S·S STAINLESS STEEL

SHEETS · STRIP · PLATES · BARS · BILLETS · PIPE · TUBES · WIRE · SPECIAL SECTIONS

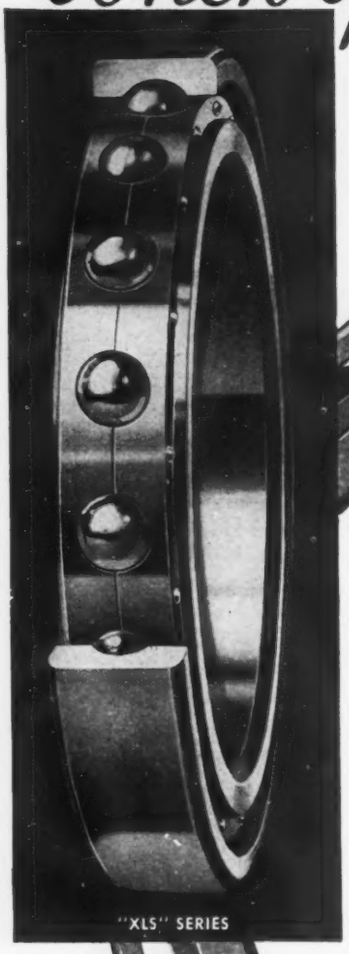
AMERICAN STEEL & WIRE COMPANY, *Cleveland, Chicago and New York*
CARNEGIE-ILLINOIS STEEL CORPORATION, *Pittsburgh and Chicago*
COLUMBIA STEEL COMPANY, *San Francisco*
NATIONAL TUBE COMPANY, *Pittsburgh*
TENNESSEE COAL, IRON & RAILROAD COMPANY, *Birmingham*
United States Steel Supply Company, Chicago, *Warehouse Distributors*
United States Steel Export Company, New York

USS STAINLESS STEEL UNITED STATES STEEL

UNITED STATES STEEL

When You're Cramped for Space

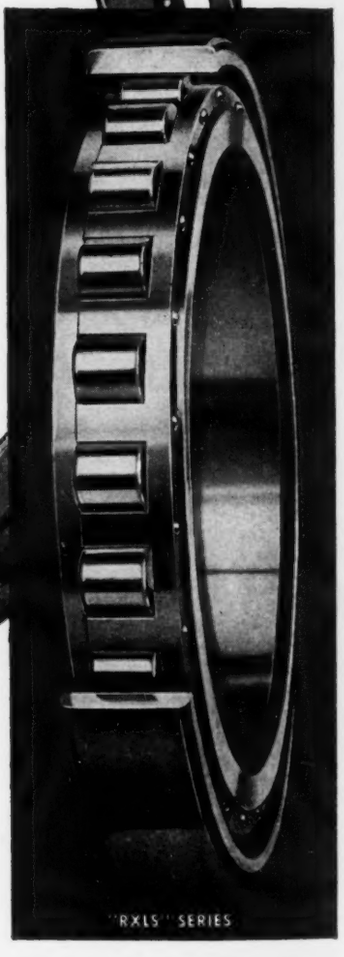
USE THESE VERY LIGHT INCH SERIES BEARINGS



HAVING bores abnormally large, as compared with the outside diameter, they offer definite advantages under certain conditions found in machine design. You may have them in several different types, *affording compactness, light weight, and greater latitude in your design.*

There are several lines of very light type ball bearings, which include the "S" starting at 1/8" bore, and the "XLS" starting at 1 3/8" bore, running up to a maximum of 21" bore and 28" outside diameter. And in very light type roller bearings, there is the "RXLS" Series, paralleling the "XLS" in size range.

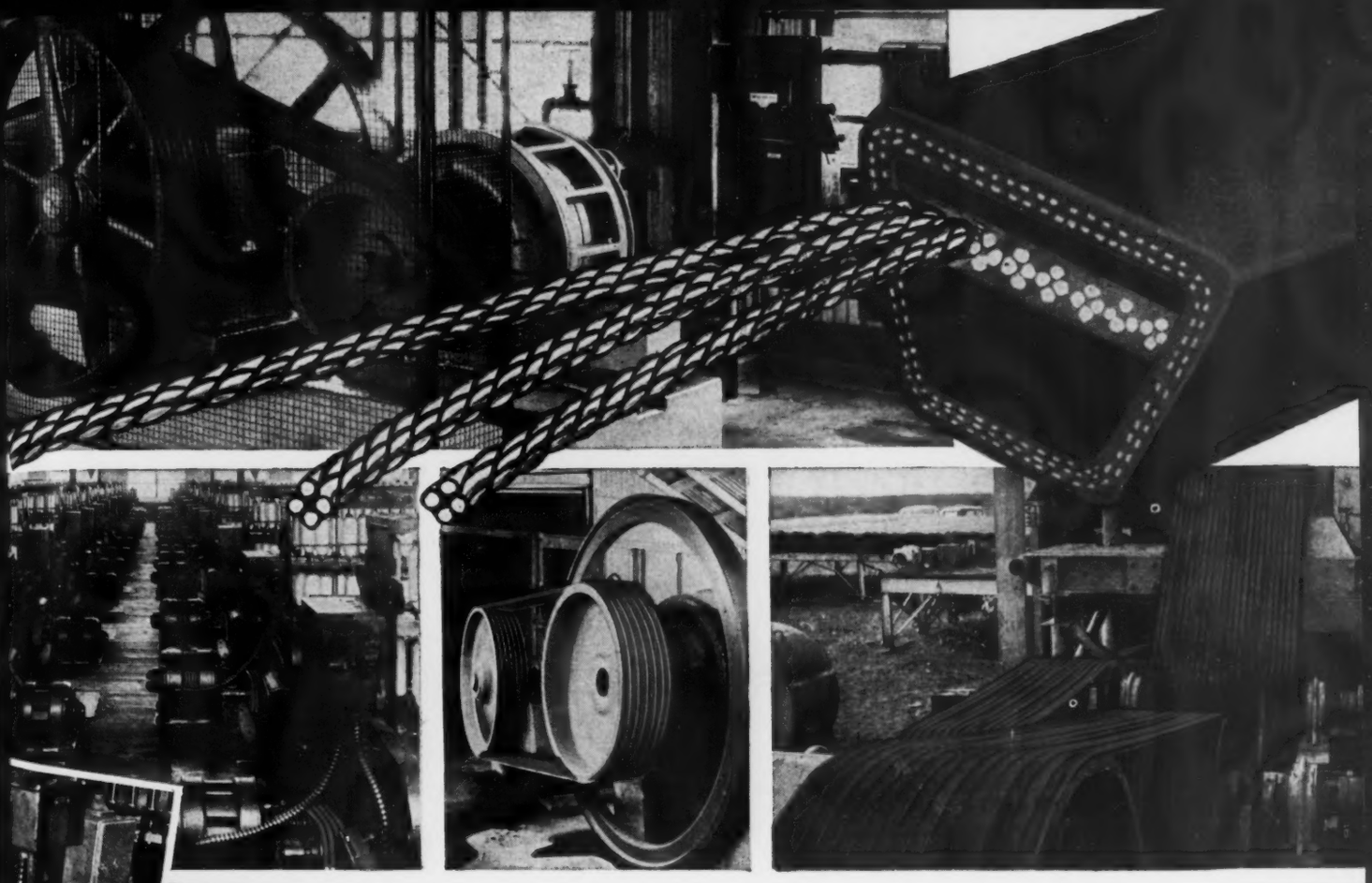
Why not let our engineers tell you more about these Very Light Precision Bearings? Write for the Catalog.

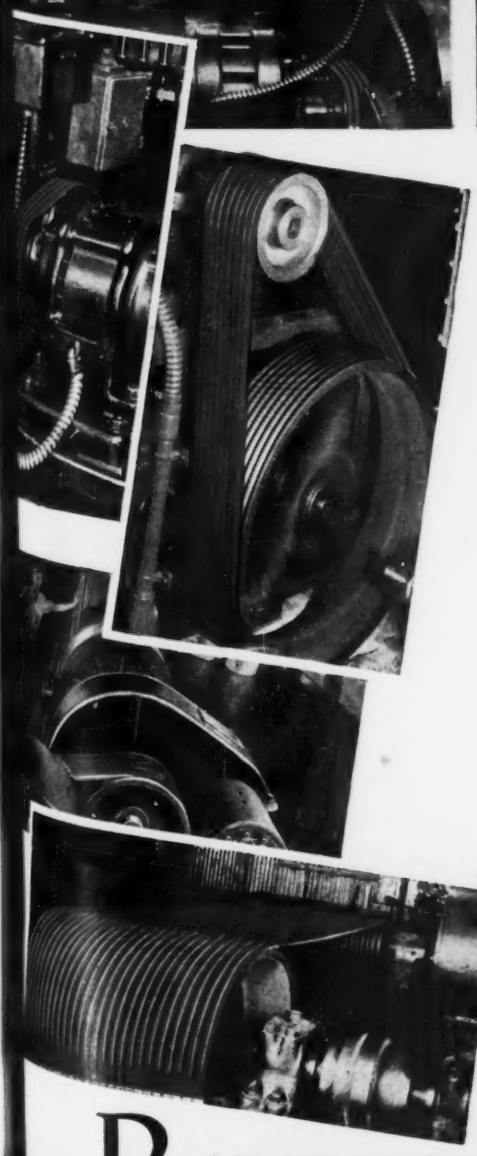


"NORMA-HOFFMANN"

PRECISION BALL, ROLLER AND THRUST BEARINGS

NORMA-HOFFMANN BEARINGS CORP'N.—STAMFORD, CONN., U. S. A.





8 DISTINCT ADVANTAGES in Condor Whipcord V-BELTS

1. Wide margin of strength
2. Minimum inelastic stretch
3. Uniform flexibility
4. Maximum resistance to structural breakdown
5. Smooth running
6. Maximum traction
7. High resistance to side wear
8. Correct lateral reinforcement

The outstanding difference in Condor V-Belt construction is the Whipcord *Strength Member* illustrated in the above cross section. This backbone of drawpower is composed of strong strands of cotton cord made to Manhattan's own specifications, impregnated and encased in strong, tenacious, slow aging *Flexlastics* . . . Other factors being equal, the useful life of a V-Belt is limited by excessive stretch. The function of the Condor Whipcord *Strength Member* section is to take the load and prevent undue stretch.

V-Belt Bulletin #6868B (mailed on request) gives more details of the long-wearing construction and includes helpful tables.

Available also in Paranite G.O.P. (Gas Oil-Proof) and Non-Spark compounds of Flexlastics.

The term FLEXLASTICS is an exclusive MANHATTAN trade mark. Only MANHATTAN may make FLEXLASTICS. MANHATTAN Belts will be made in the red color when again possible.

RAYBESTOS-MANHATTAN, INC.

MANHATTAN RUBBER DIVISION

EXECUTIVE OFFICES AND FACTORIES PASSAIC, NEW JERSEY

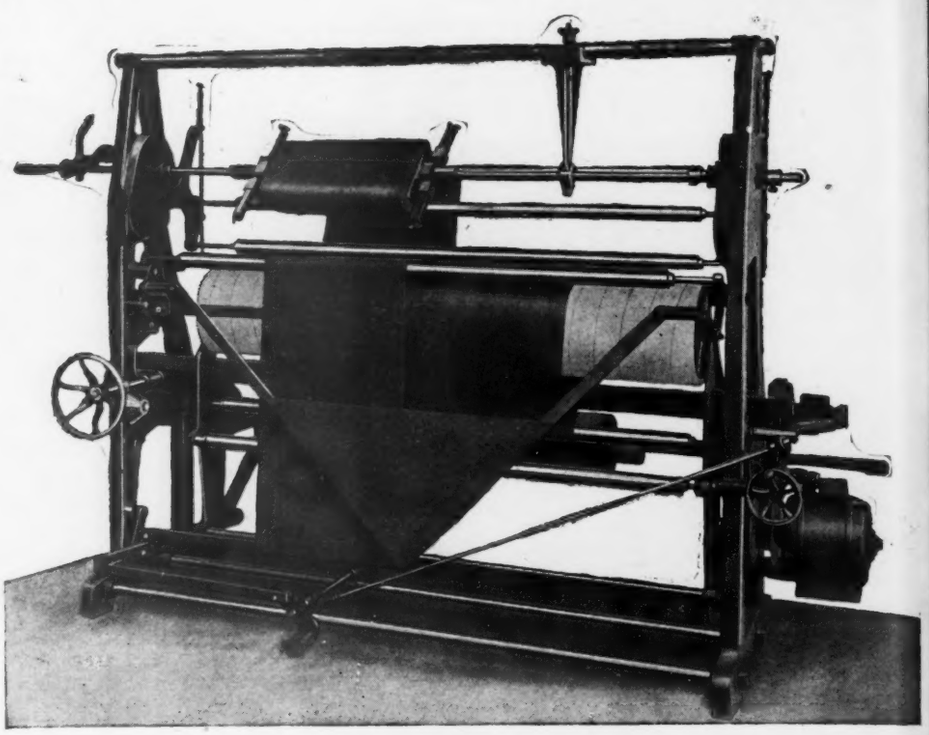
IT DOUBLES

IT TUBES

IT INSERTS TISSUE

IT MEASURES

IT HANDLES
ALL PACKAGES



THE VAN VLAANDEREN DOUBLER-TUBER

This machine is well-known for its versatility. It tubes a firm, even package for regular work—and, in addition, is ready for unusual packaging jobs when needed. No mechanical changes are necessary to change from tubing to doubling—just a change in lace-up.

Take-up spindles are driven from both ends and accommodate a large diameter on tubes, reels, cardboard or wood shells.

Measuring is accurate from a rubberized steel drum of one yard circumference. Measuring is registered by Veeder counter.

All controls, such as starting, braking, stopping, tubing or doubling bar lock and measuring are within easy reach of operator's position at the machine.

Built to the Van Vlaanderen standard of construction for long trouble-free service. Write for full data.

VAN VLAANDEREN
MACHINE COMPANY, INC.

370 Straight Street, Paterson 3, New Jersey

World's largest manufacturer of machines for processing modern fabrics

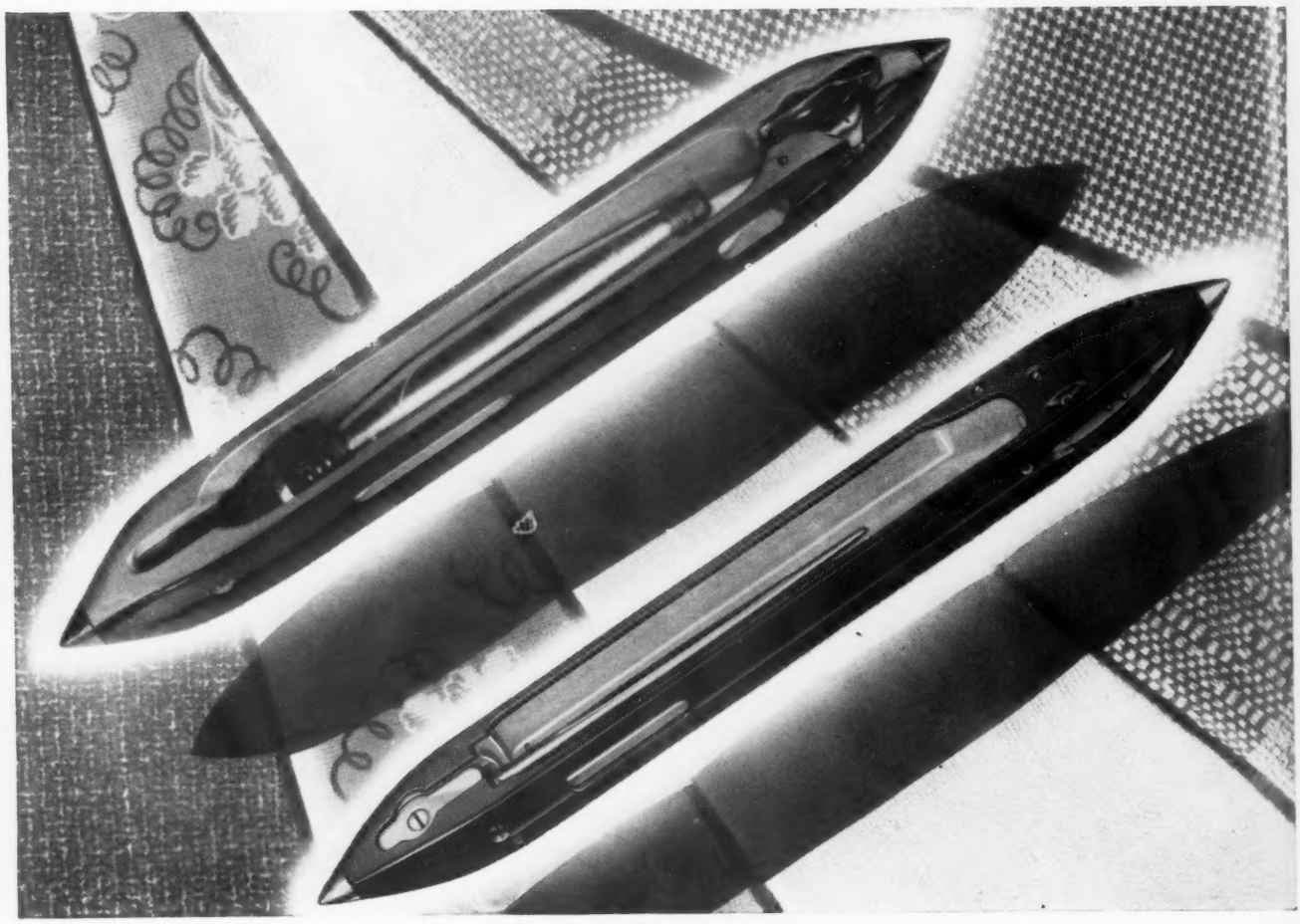
naphtols

fast color salts
and bases

GENERAL DYESTUFF CORPORATION

435 HUDSON STREET, NEW YORK 14, NEW YORK

BOSTON · PHILADELPHIA · CHARLOTTE · PROVIDENCE · CHICAGO · SAN FRANCISCO



Upgrade your Profit-Stealing "Seconds"
with U S SHUTTLES

"SECONDS" *cost* you just as much to weave as first quality fabrics, but you're out of pocket a considerable difference in *price* when you sell them.

YOU CAN UPGRADE a gratifying percentage of your "seconds" to "firsts" by making sure your shuttles are designed to maintain top-grade quality without sacrifice of production speed.

U S SHUTTLES are the choice of so many successful mills because they are designed and produced by U S shuttle specialists whose fund of experience dates back through 88 years of close cooperation with leading loom manufacturers.

U S AUTOMATIC LOOM SHUTTLES are precision engineered for positive threading—prevent the degrading caused by mispicks and bad transfers. U S Shuttles for shuttle-changing looms are accurately matched in sets to the closest possible limits of tolerance in all tests for dimensions, weight, and balance.

LOOK TO U S for your present shuttle requirements, and for tested refinements in shuttle design and performance to match every improvement in loom design, as it comes along.

A U S SALES REPRESENTATIVE from the office near you is thoroughly familiar with all types of fibers and textile processes, and can offer you experienced advice. Let him help you in choosing Shuttles, Bobbins, Cones, Rolls, Spools, or other U S Products.

U S BOBBIN & SHUTTLE CO.

PROVIDENCE, R. I.
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CHICAGO AGENT:
Albert R. Breen,
80 E. Jackson Blvd.

LAWRENCE, MASS.

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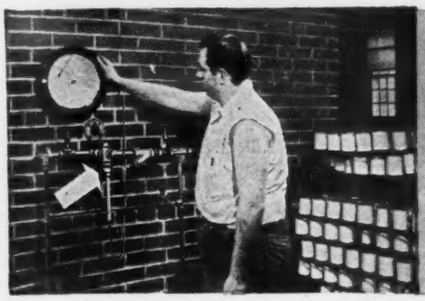
ALABAMA AGENT:
Young & Vann Supply Co.
Birmingham

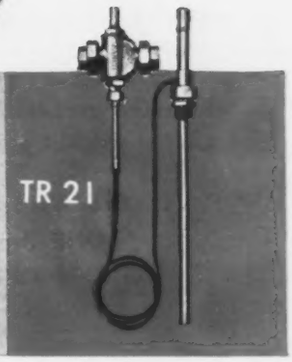
THE SEAL OF QUALITY AND SERVICE SINCE 1857
US

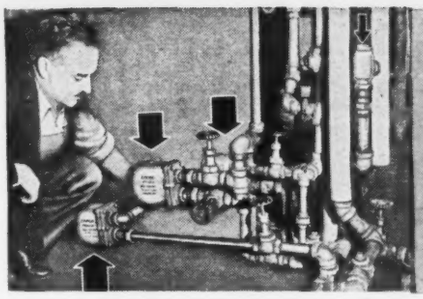
HOW DOES SARCO SAVE
IN THE TEXTILE INDUSTRY?



Twist Setting

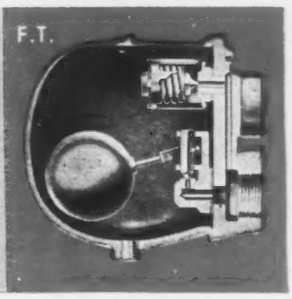
The production on treating yarns in ovens was materially increased by Sarco TR-21 temperature controls. Quality uniform—rejects reduced. Bulletin No. 600.

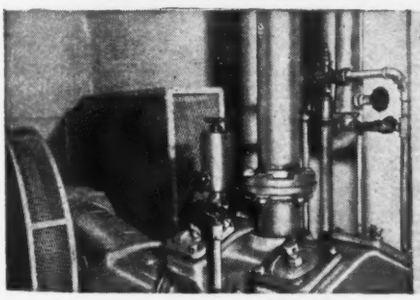




Agers

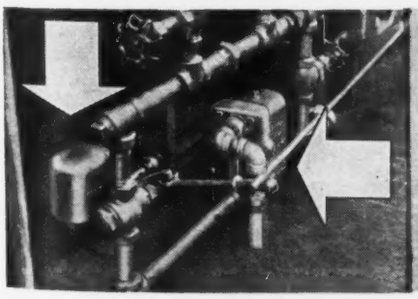
Three Sarco float-thermostatic steam traps and one No. 9 thermostatic trap stabilized the operation of this ager in a textile plant. This plant is All Sarco. Bulletin 450.





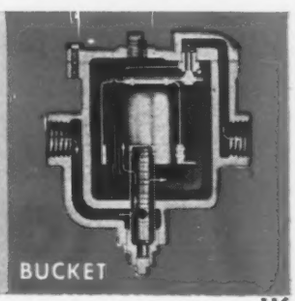
Compressor Cooling

The Sarco TR-40 cooling control reduces water consumption, makes compressors more effective. Other types for Diesels. Bulletin No. 700.



Finishing

The problem was to increase production. Sarco bucket steam traps did it by working harder, faster, and longer. Bulletin 350.



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FOUR STARS ON OUR E PENNANT TESTIFY TO SARCO PERFORMANCE IN THE WAR EFFORT

SARCO SAVES STEAM

Represented in Principal Cities

SARCO COMPANY, INC., 475 FIFTH AVE., NEW YORK 17, N.Y. • Sarco Canada, Ltd., 85 Richmond St., W., Toronto I, Ont.

From End to End of Power Piping Uniform Quality Stands Guard

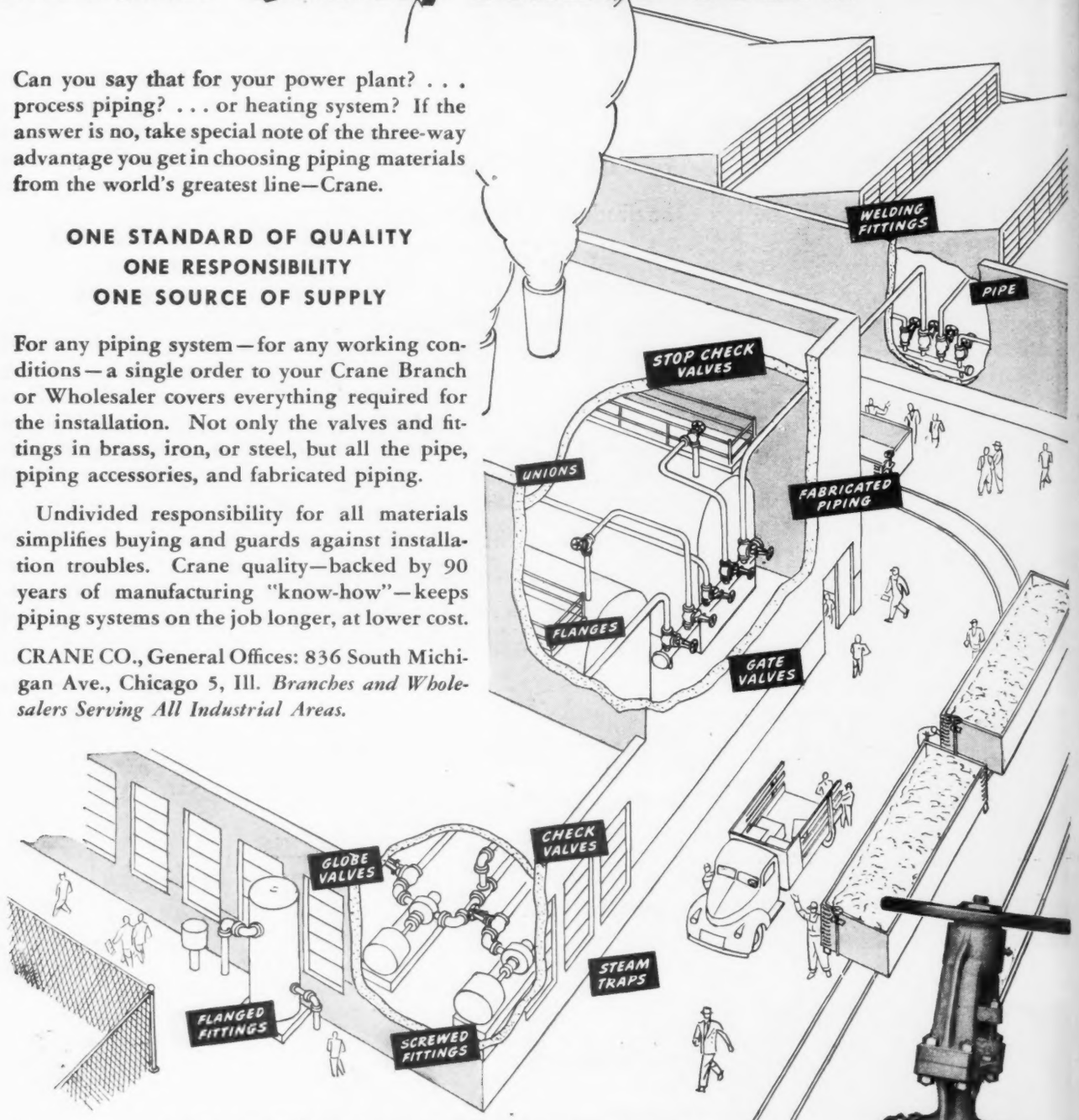
Can you say that for your power plant? . . . process piping? . . . or heating system? If the answer is no, take special note of the three-way advantage you get in choosing piping materials from the world's greatest line—Crane.

ONE STANDARD OF QUALITY
ONE RESPONSIBILITY
ONE SOURCE OF SUPPLY

For any piping system—for any working conditions—a single order to your Crane Branch or Wholesaler covers everything required for the installation. Not only the valves and fittings in brass, iron, or steel, but all the pipe, piping accessories, and fabricated piping.

Undivided responsibility for all materials simplifies buying and guards against installation troubles. Crane quality—backed by 90 years of manufacturing "know-how"—keeps piping systems on the job longer, at lower cost.

CRANE CO., General Offices: 836 South Michigan Ave., Chicago 5, Ill. *Branches and Wholesalers Serving All Industrial Areas.*



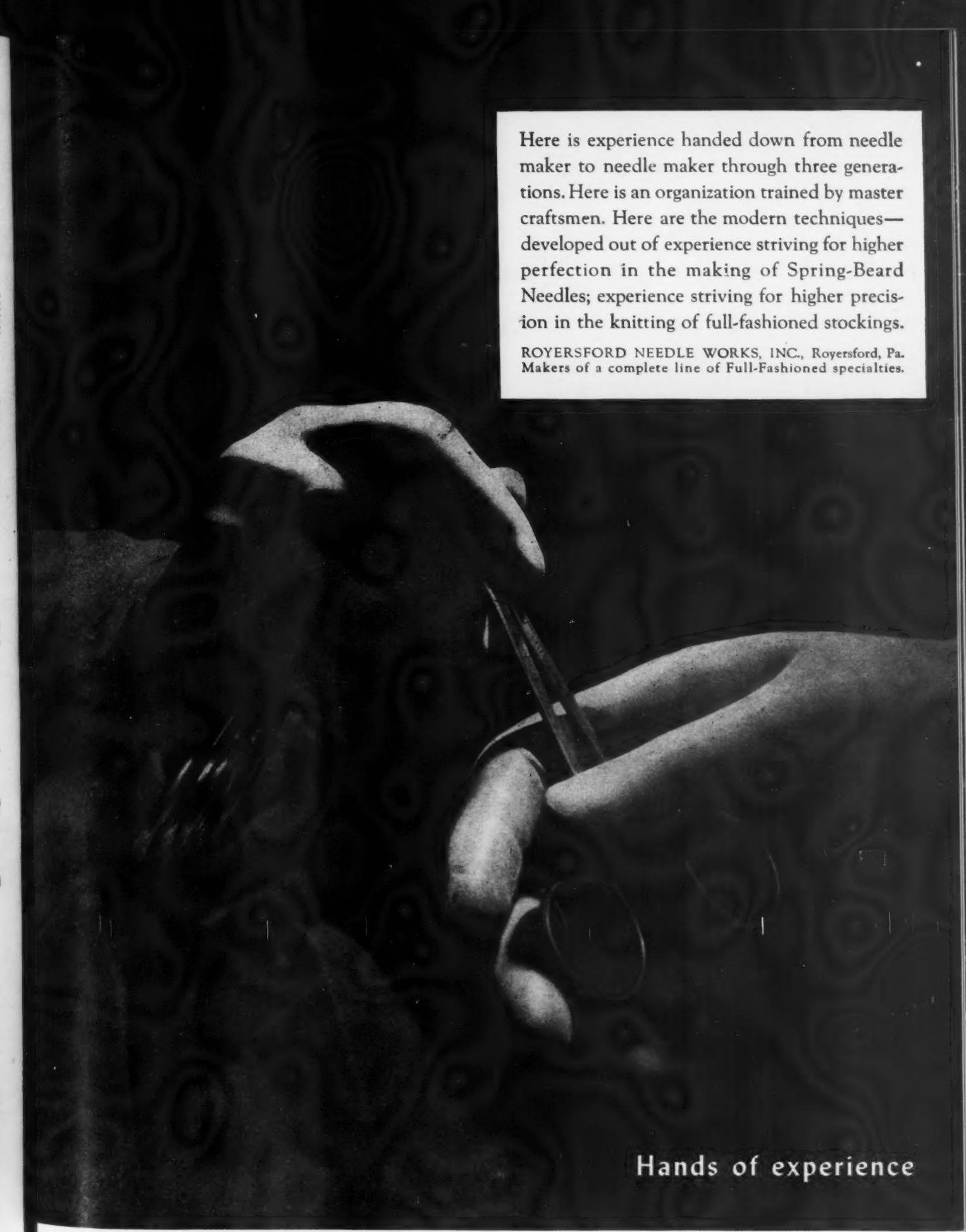
(*Right*) Typical of the uniformly high quality in Crane products—Crane Alloy Steel Wedge Gate Valves. The 600-pound class, with Exelloy to No. 49 Nickel Alloy seating, is recommended for steam, water, gas or air up to 850° F. maximum; with Stellite to Stellite, for steam up to 1000° F.; with Exelloy to Exelloy, for oil or oil vapor up to 1100° F. Screwed, flanged, or welding ends. See your Crane Catalog for complete specifications.

EVERYTHING FROM . . .

VALVES • FITTINGS
PIPE • PLUMBING
HEATING • PUMPS

CRANE

FOR EVERY PIPING SYSTEM


Here is experience handed down from needle maker to needle maker through three generations. Here is an organization trained by master craftsmen. Here are the modern techniques—developed out of experience striving for higher perfection in the making of Spring-Beard Needles; experience striving for higher precision in the knitting of full-fashioned stockings.
ROYERSFORD NEEDLE WORKS, INC., Royersford, Pa.
Makers of a complete line of Full-Fashioned specialties.
Hands of experience

Royersford

—the Master Needle Maker

Sheerset† RESIN

A New Finish for Sheer Fabrics

Here is a permanent, stabilizing new finish for sheer fabrics that opens an entire new sales outlook for the textile industry. **SHEERSET**†, a melamine resin, is the basis of the finish, assuring a lasting crispness, and color stabilization, when applied to fine rayon or cotton fabrics.

SHEERSET Resin can be applied to a wide variety of sheer textile fabrics such as organdy, marquisette, voile, ninon, dotted swiss, lawn, Bemberg sheers and nets. Fabrics retain their original firm texture, with no appreciable shrinkage, fading or change in shape, even after repeated laundering or dry cleaning.

SHEERSET Resin offers unique merchandising advantages to the sheer fabrics manufacturer and finisher. Our technical staff will be glad to advise you on its use.

†Trademark of American Cyanamid Company

Other Melamine Resins for Textile Finishes

Lanaset RESIN

FOR WOOL SHRINKAGE CONTROL

LANASET* Resin—is applied, after dyeing, to woven and knitted wool fabrics to control shrinkage and felting. It should be used with new fabrics, the construction of which should be planned with the use of the Lanaset resin finish in mind. The treated fabric retains its texture, absorbency and other desirable wool characteristics.

Lacet† RESIN

LACET† Resin—is applied to cotton or rayon Nottingham lace curtains during pigment dyeing and / or finishing as a durable stiffener to prevent stretching (sagging) and shrinking. Lacet Resin minimizes soiling and eliminates need for framing and ironing. When used as a binder with pigment colors, light fastness is improved.

aerotex† softener H

AEROTEX† SOFTENER H—is applied, in combination with most of the permanent types of synthetic resin, to wool, rayon and cotton to produce superior smoothness and suppleness of hand. It does not discolor white goods nor does it interfere with crease resistant properties.

*Registered U. S. Pat. Off.

AMERICAN CYANAMID COMPANY

TEXTILE RESIN DEPARTMENT

BOUND BROOK, NEW JERSEY

New York · Chicago · Boston

Philadelphia · Charlotte · Providence

IRON VALVES *with a Background*

The Complete Powell Line also includes Bronze and Steel Valves and Valves of all necessary types and materials for corrosion resistance.

Fig. 1793

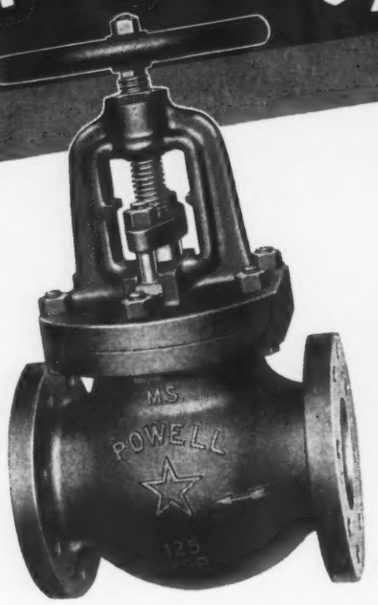


Fig. 241

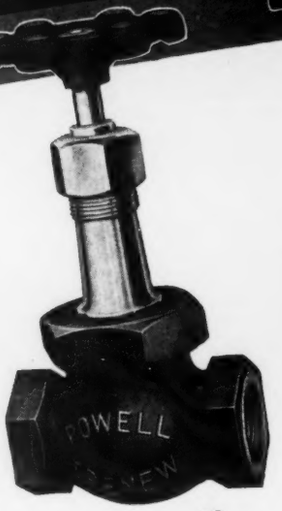


Fig. 190

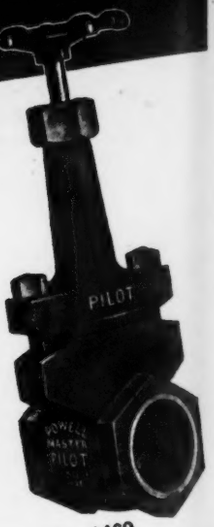


Fig. 1460

100 YEARS of scientific achievement and practical experience lie behind the Complete Powell Line of Iron Body Bronze Mounted and All Iron Valves for steam, oil, water, gas and process lines.

In many services in flow control these valves will do just as good a job as valves of more costly materials. And in certain services they will do a better job than any other kind.

For every installation where an Iron Body Bronze Mounted or an All Iron Valve is indicated, Powell has the correct type, size and design to assure better performance and longer life—at the least cost of maintenance. Powell Engineers will be glad to advise you where you can profitably use Iron Valves in your flow control system. Catalogs on request.

The Wm. Powell Company, Cincinnati 22, Ohio

DISTRIBUTORS AND STOCKS IN ALL PRINCIPAL CITIES

Fig. 1793—Iron Body Bronze Mounted Gate Valve for 125 pounds W. S. P. Flanged ends, outside screw rising stem, bolted flanged yoke, bronze seat rings and taper wedge solid disc. Sizes 2" to 30", inclusive. Also available in All Iron.

Fig. 241—Iron Body Bronze Mounted Globe Valve for 125 pounds W.S.P. Flanged ends, outside screw rising stem, bolted flanged yoke and regrindable, renewable bronze seat and disc. Sizes 2" to 16", inclusive. Also available in All Iron.

Fig. 190—Iron Body Bronze Mounted "Irenew" Globe Valve for 150 pounds W. S. P. Has screwed ends, union bonnet and regrindable, renewable wear-resisting nickel-bronze seat and disc. Sizes ¼" to 3", inclusive. Also available in All Iron.

Fig. 1460—Iron Body Bronze Mounted "Master Pilot" Gate Valve with screwed ends, rising stem, bolted flanged bonnet and taper wedge solid disc. Sizes ¼" to 2", inclusive, for 150 pounds W. S. P.; 2½" to 4", inclusive, for 125 pounds W. S. P. Also available in All Iron.

POWELL VALVES

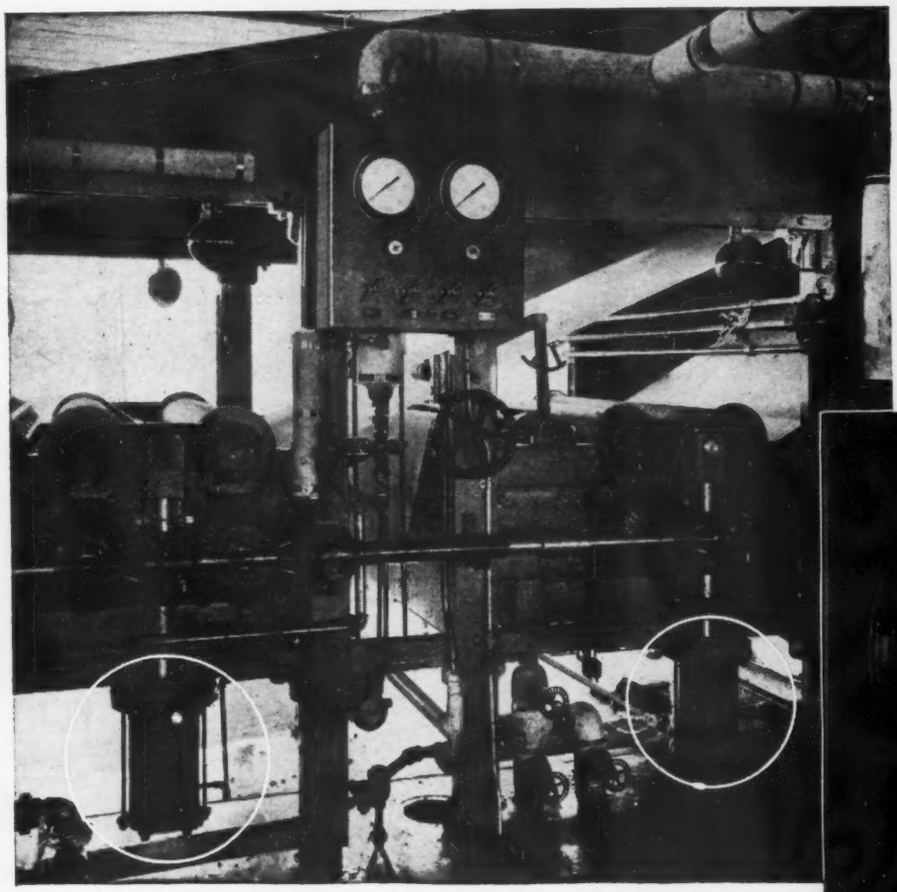
Ability to withstand heavy impact load is an attribute of Bunting Cast Bronze Sleeve Bearings. The large area of contact with its oil film insulation serves to distribute and cushion the impact. The Bunting Brass & Bronze Company, Toledo 9, Ohio. Branches in Principal Cities.

36

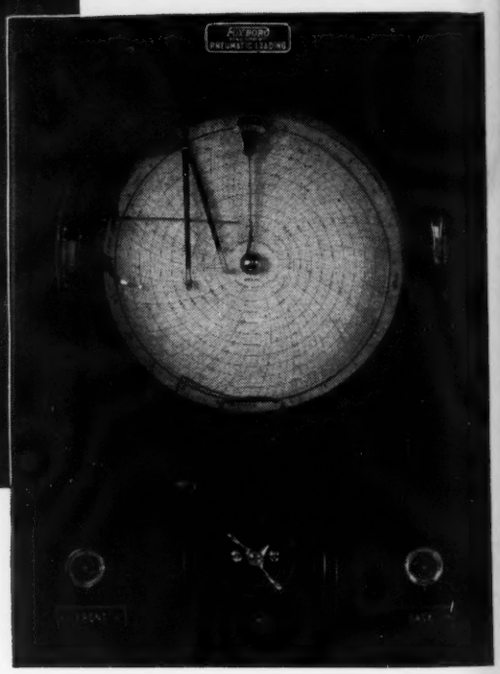
Bunting

BRONZE BEARINGS ☆ BUSHINGS ☆ PRECISION BRONZE BARS

BIGGEST ADVANCE EVER MADE
in Applying Roll Pressure!



Foxboro Pneumatic Loading on this slasher gives complete loading control from a single panel (top center). Pressure cylinders for one end of rolls shown in circles. Recording model (below) also available.



Foxboro Pneumatic Loading gives calibrated "cushioned" pressure with fingertip control!

Here's an improved roll loading system that enables you to adjust your roll pressures *instantly* and *exactly* in pounds per lineal inch of roll face. It eliminates all guesswork in setting up several machines to produce identical results . . . blocks danger of unsuspected overloading of costly rolls, too.

Foxboro Pneumatic Loading is the only system that gives you all the advantages of modern "cushioned" loading at its highest development. A simple twist of two knobs on the instrument exactly adjusts and equalizes the pressure on both ends of the roll . . . without fussy calculations . . . without corrections for roll widths.

What's more, this calibrated pressure is maintained automatically. Variations in material thickness, and any out-of-roundness of rolls, are automatically compensated. There's no bouncing of rolls to limit operating speed . . . and a flip of a lever unloads both ends of the roll instantly!

Why not call in a Foxboro Engineer to discuss how this improved roll loading can benefit your operation? No obligation involved. In the meantime, write for Bulletin B-306 containing details of this Foxboro development for slashers, dye padders, washers, mangles and other roll machines. **The Foxboro Company, 84 Neponset Avenue, Foxboro, Mass., U. S. A.**

FOXBORO REG. U. S. PAT. OFF. **PNEUMATIC LOADING**

DYERS, TOO, HAVE THEIR "FAVORITE COLOR"

Calcocid Alizarine Blue SAPG

- a brighter blue
- produces better shades
- imparts clearer tones

WHEN, before the war, we introduced our Calcocid Alizarine Blue SAPG to the trade, its outstanding performance surpassed all other Alizarine Saphirol Blues.

Today, Calcocid Alizarine Blue SAPG is still the best—because it is the brightest and greenest product of this type on the market.

Calcocid Alizarine Blue SAPG, the brightest and greenest of blues, is recommended for woolens and worsteds, knitting yarns, carpets, upholstery fabrics, hat felts and wherever light fastness is essential.

Application is by the usual method employed for wool dyeing with sulfuric acid dyeing colors.

Write now to Calco for additional information.

CALCO CHEMICAL DIVISION
AMERICAN CYANAMID COMPANY
Bound Brook, New Jersey

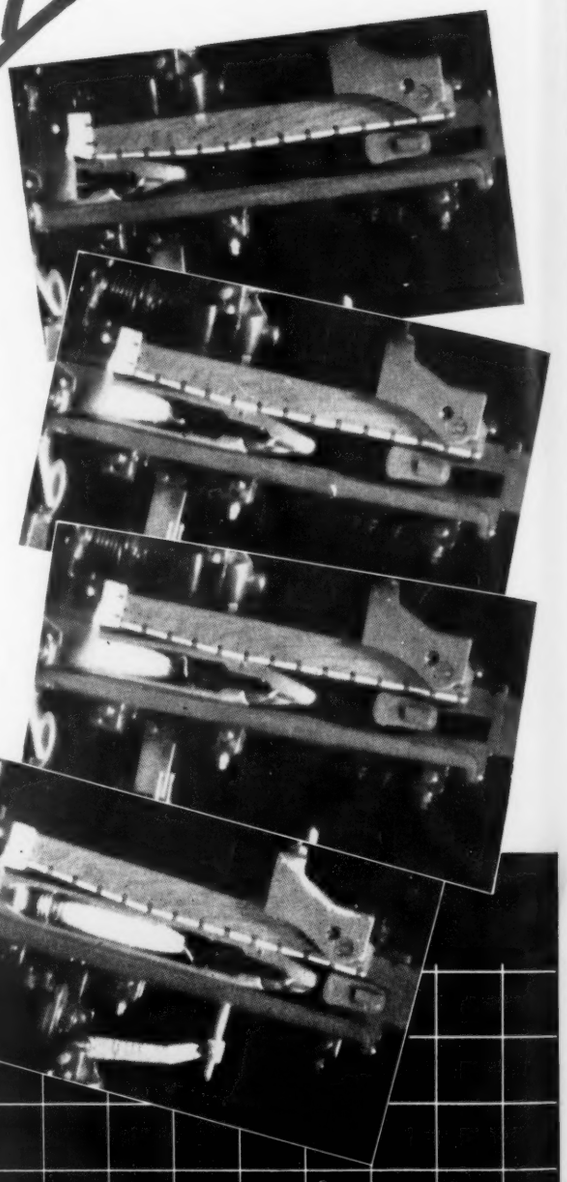
New York • Chicago • Philadelphia • Boston • Charlotte • Providence

Calco
REG. U. S. PAT. OFF.

C&K STUDIES HOW TO SLOW UP A LOOM-SHUTTLE

SMOOTHLY

...from 30 miles per hour to a dead stop within a distance of 10 inches!



These "still frames" (photos at right), which arrest motion at 1 480th of a second, are clipped from a moving picture taken by the high-speed camera developed and built by C&K.

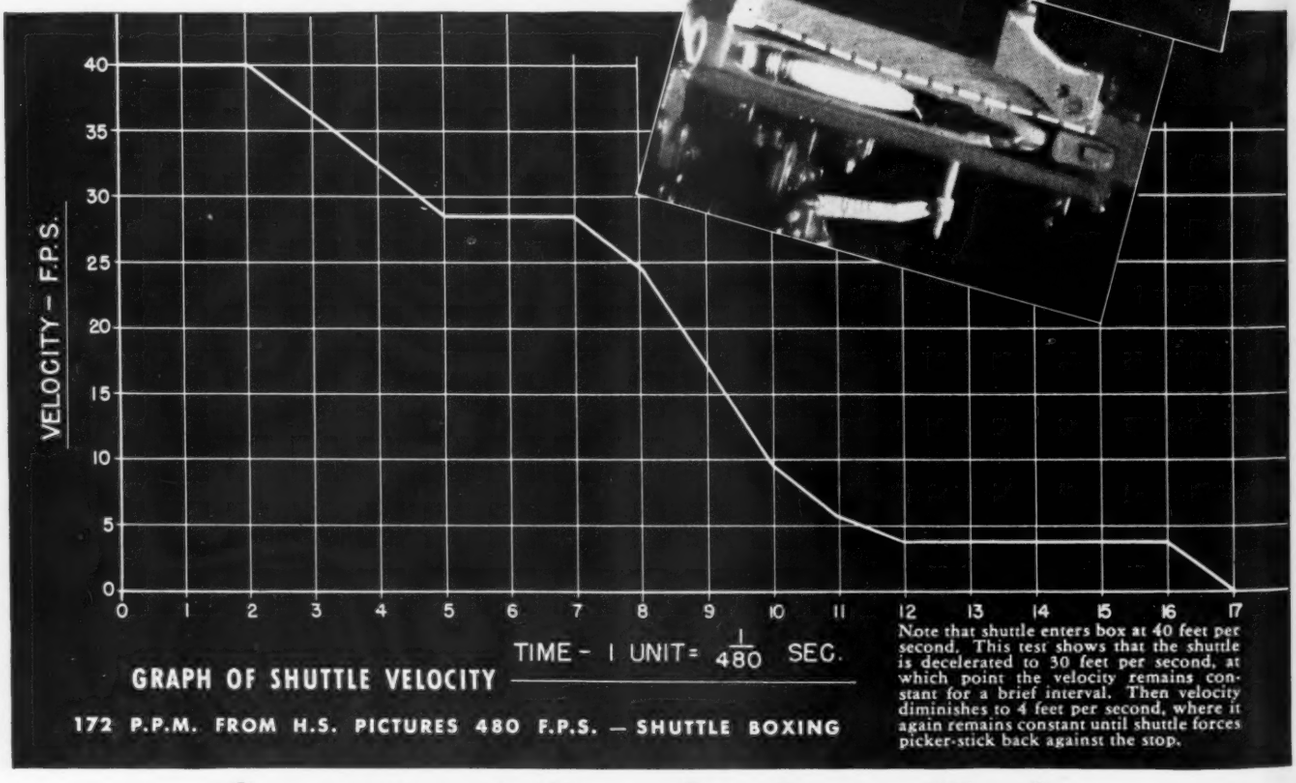
Top photo shows the instant when binder is first contacted by the shuttle . . . which has come flashing across the loom at 172 picks per minute. Now, two things can happen:

The shuttle can slam-bang full tilt into the shuttle box . . . and in the process the yarn will slough off the bobbin, get fouled up, and break.

Or the shuttle can be controlled to a non-slamming stop — within less than one foot (shown by the last three pictures).

Time elapsed in stopping the shuttle is 1/30th of a second!

Elimination of yarn-breakage and chatter of the binder are the objects of our search. And this search is another of the many studies being continuously made by C&K engineers, with the objective of increasing the efficiency and *smoothness* of operation of all C&K Looms. This is one of the many assurances that *your* new C&K Looms will roll out more yardage, of higher quality, more swiftly and uninterruptedly.



GRAPH OF SHUTTLE VELOCITY

172 P.P.M. FROM H.S. PICTURES 480 F.P.S. — SHUTTLE BOXING

Note that shuttle enters box at 40 feet per second. This test shows that the shuttle is decelerated to 30 feet per second, at which point the velocity remains constant for a brief interval. Then velocity diminishes to 4 feet per second, where it again remains constant until shuttle forces picker-stick back against the stop.

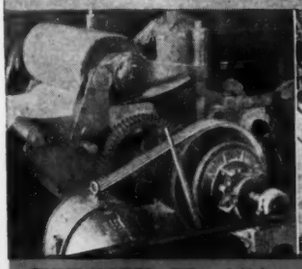
Crompton & Knowles Loom Works

WORCESTER 1, MASSACHUSETTS, U. S. A.
PHILADELPHIA, PA. • CHARLOTTE, N. C. • ALLENTOWN, PA.
Crompton & Knowles Jacquard & Supply Co.
Pawtucket, R. I.

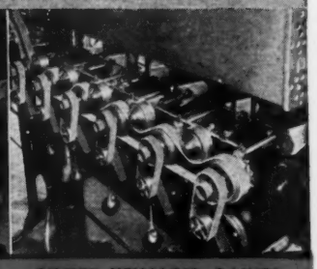
between Today's Knowledge. and Tomorrow's Looms

Gilmer BELTS

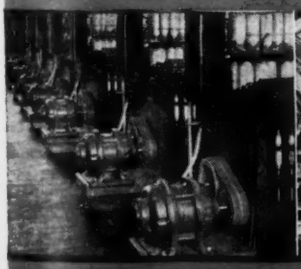
Highly specialized belts for every application from power plant to looms



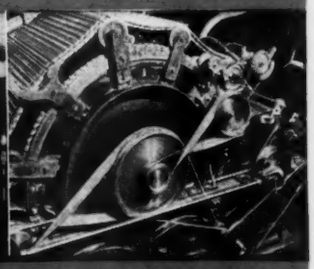
GILMER V-BELTS—FHP and Multiple. Space saving, silent, shock absorbing. Built to lock in the grooves with a non-slip grip. In standard and special sizes.



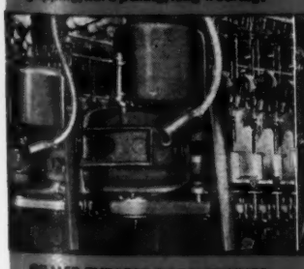
GILMER HEVALOID GAINER BELTS. Made under Hevaloid patent with Neoprene compound which provides a high coefficient of friction. Resist oil, heat, stretch and slippage.



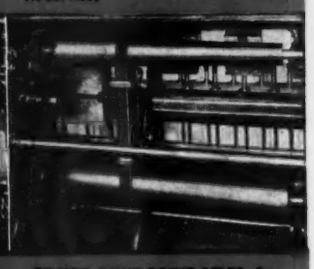
GILMER KABLE KORD BELTS AND BELTING. Meet practically every flat, power belt need. Endless and non-endless, "two-belts-in-one"—contactor and power. Tight gripping, hard pulling, long wearing.



GILMER KABLE KORD LICKERIN BELTS. A contactor and power belt in one. Noted for exceptional grip, low stretch, small slippage and high tensile strength. Stand up long in service.



GILMER ENDLESS CORD SPINNER BELTS. Built with continuous cord construction to assure smooth and uniform spindle speed. A belt of high tensile strength, low stretch and long life.



GILMER CONE DRIVE BELTS. Reinforced multiple jacket edges and rubber-backed internal structure check wear and unraveling from the action of shifter forks. Assure longer life in the toughest service.

WHATEVER the belting application, there is a Gilmer Belt to fit it exactly. There are Gilmer V-Belts, flat belts, round belts . . . endless and non-endless . . . standard and specially treated . . . heavy-duty power belts, high speed belts, and belts for the many services that range between. And for each application you can count on Gilmer Belts for maximum gripping and pulling power . . . plus the assurance of long wear and economy.

The long and close association of Gilmer engineers with the textile industry has resulted in an intimate knowledge of the industry's belting requirements. They can help you in the solution of your belting problems, and they gladly offer their services without charge or obligation.

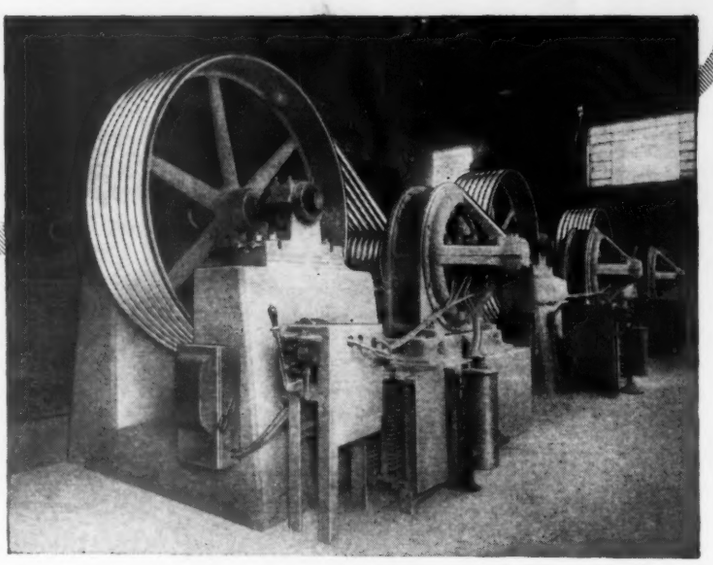
OTHER GILMER BELTS include Endless Round Belts for carding machines, Endless Flat Belts for spinning frames, etc. All are completely described in the handbook, "Gilmer Belts for the Textile Industry"—a book that simplifies the specifying of belts for a large majority of drives. Write for your FREE copy today.

L. H. GILMER COMPANY
TACONY, PHILADELPHIA 35, PA.
Division of United States Rubber Company

Here is **WHY**

Your STANDARD Gates Vulco Ropes Are Today Giving BETTER SERVICE Than ANY V-Belts Ever Built Before!

EARLY IN THE WAR, it became perfectly clear that Army tanks, tractors and self-propelled big guns in *combat service* simply *had* to have V-Belts of greater strength and durability than had ever been built before. Gates developed these greatly superior V-Belts through intensified, specialized research — and here is why this fact is now important to YOU: —



✓ **Every Improvement developed by Gates for these Army V-Belts has also been added, day by day, to the quality of the Standard Gates Vulco Ropes which have been delivered to you.**

All Gates V-Belts are Built with
The Patented

This is one of the very few instances in which improvements developed primarily for military use could be passed on immediately to you. Ordinarily, *you* would have had to wait. An exception was made in the case of Gates V-Belts because it was recognized that industry needed the best possible V-Belts in order to achieve the greatest possible production —and maximum production was vitally essential.

That is why Gates has been able to pass on to you, day by day, every V-Belt improvement developed for our armed forces during the war—and that is why your *Standard* Gates Vulco Ropes are today delivering far better service than *any* V-Belts ever built before!

Gates

THE MARK OF SPECIALIZED RESEARCH

THE GATES RUBBER COMPANY

Engineering Offices and Jobber Stocks In All Large Industrial Centers

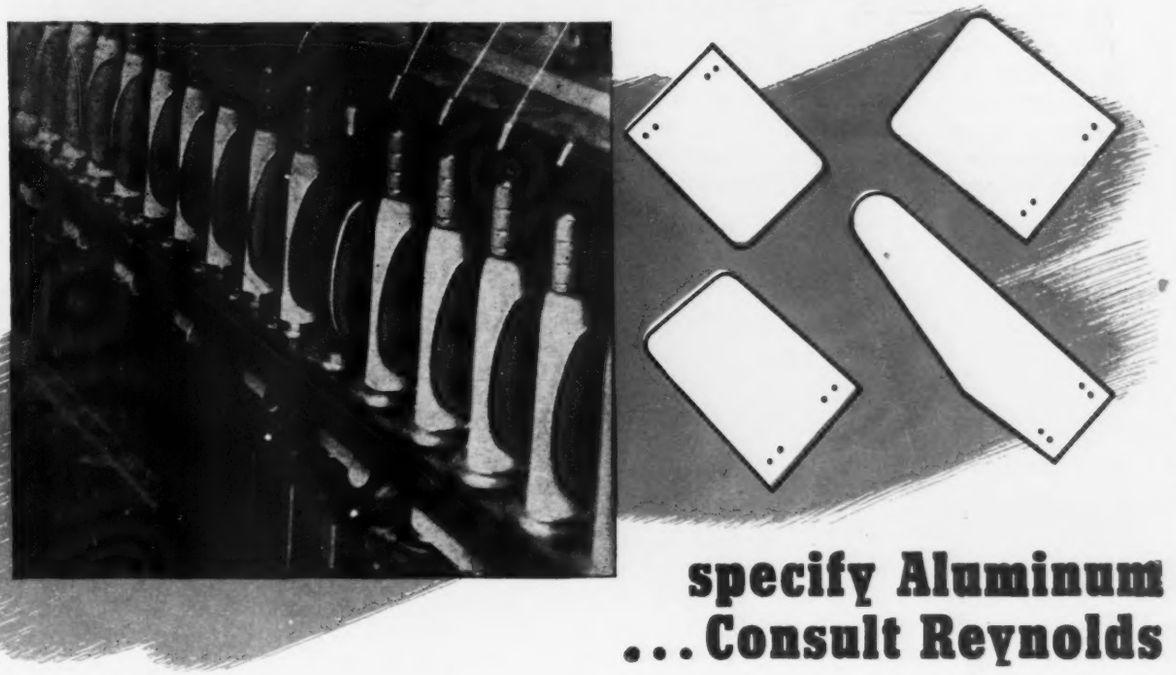
469

GATES VULCO ROPE DRIVES

CHICAGO 6, ILL., 549 West Washington — DALLAS 2, TEXAS, 1710 N. Market Street — ATLANTA 3, GA., 521-23 C & S National Bank Building
CHARLOTTE 2, N. CAROLINA, 605 West Fifth St. — NEW YORK CITY 3, 215-219 Fourth Ave. — DENVER 17, COLO., 999 South Broadway
GREENVILLE, S. CAROLINA, 108 W. Washington Street — BIRMINGHAM 3, ALA., 801-2 Liberty National Life Bldg.

SEPARATOR BLADES...

LIGHT ✓ HARD-FINISHED ✓
STRONG ✓ CORROSION-RESISTANT ✓



specify Aluminum ...Consult Reynolds

SEPARATOR BLADES, as used in spinning and twisting to keep high-speed revolving balloons of yarn separated from their neighbors, must meet exacting specifications.

They must be free from distortion ... have a permanently hard, smooth finish to prevent harm to delicate yarn ... be light in weight to reduce inertia forces...be strong to withstand high vibratory stresses... must resist corrosion in the high humidity of textile mill atmospheres.

High strength aluminum alloy sheet, such as Reynolds-developed R301-T and R301-W, meets these requirements.

Consider Aluminum ... Consult Reynolds. Lightweight, high strength aluminum alloys can be used in many places to cut costs and improve quality in modern textile machinery. Reynolds engineers will assist you in working out the details of applications you have in mind. Offices in principal cities. Phone nearest office, or write Reynolds Metals Co., Aluminum Textile Sales Div., 2535 So. Third St., Louisville 1, Ky.

QUICK FACTS FOR QUICK READING

- **Aluminum alloys developed by Reynolds possess unit strengths greater than many structural steels.**
- **Section for section, Reynolds Aluminum alloys weigh only ⅓ as much as steel.**
- **Highly corrosion-resistant, they withstand the high humidity common to many textile processes.**
- **Permanent dimensional stability reduces vibration, makes higher speeds possible.**
- **Fabricating ease, combined with low material costs, insures low over-all cost.**

257-A9-3

REYNOLDS METALS

REYNOLDS ALUMINUM

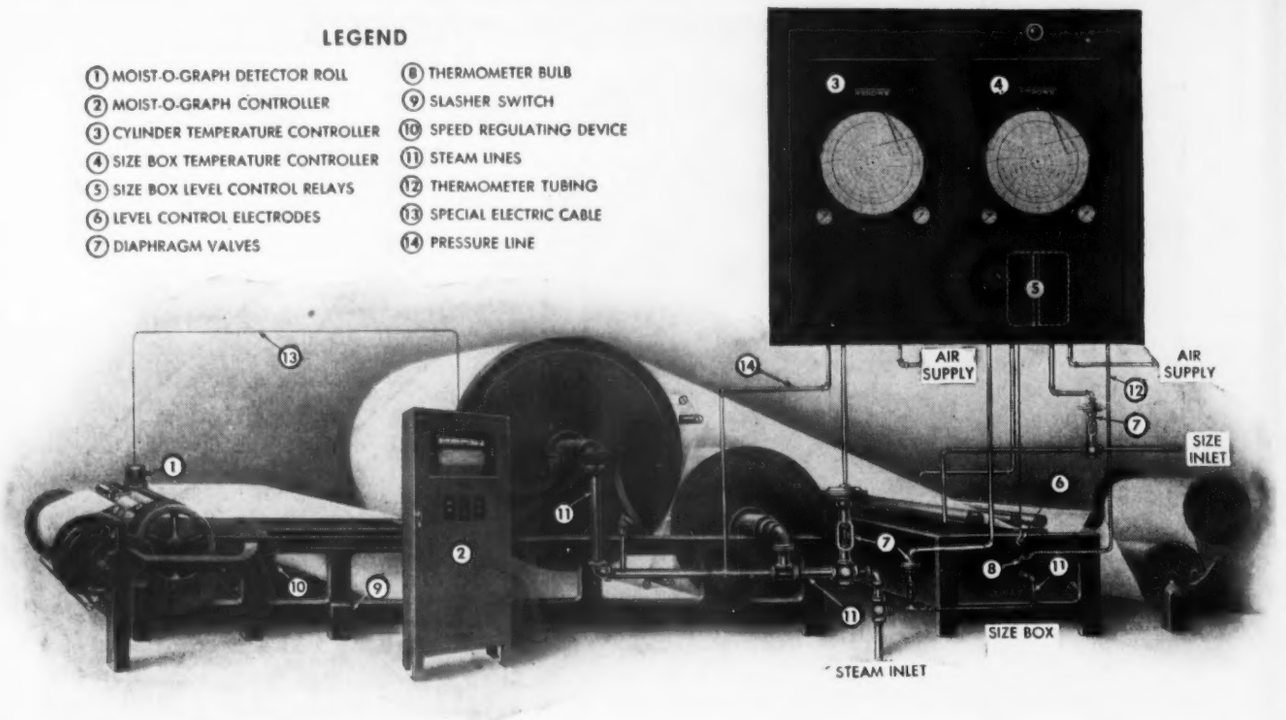
The Great New Source of

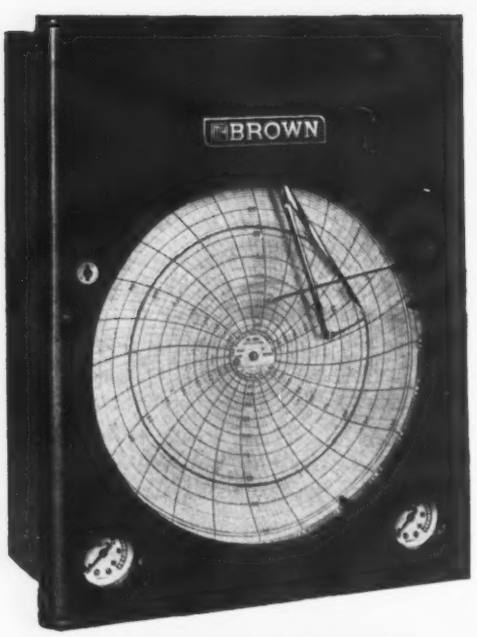
INGOT · SHEET · SHAPES · WIRE · ROD · BAR · TUBING · PARTS · FORGINGS · CASTINGS · FOIL · POWDER

Complete Slasher Control

LEGEND

1. MOIST-O-GRAPH DETECTOR ROLL
2. MOIST-O-GRAPH CONTROLLER
3. CYLINDER TEMPERATURE CONTROLLER
4. SIZE BOX TEMPERATURE CONTROLLER
5. SIZE BOX LEVEL CONTROL RELAYS
6. LEVEL CONTROL ELECTRODES
7. DIAPHRAGM VALVES
8. THERMOMETER BULB
9. SLASHER SWITCH
10. SPEED REGULATING DEVICE
11. STEAM LINES
12. THERMOMETER TUBING
13. SPECIAL ELECTRIC CABLE
14. PRESSURE LINE





SIZE BOX and CYLINDER TEMPERATURE CONTROLLER

Installed on more than 400 cotton and rayon slashers, the Brown Moist-O-Graph Slasher Control System has increased production in the weave room and quickly repaid the investment many times over.

The Brown complete Slasher Control System coordinates control of size box temperature and level with cylinder temperature and speed. The slasher changes its character from that of a mere dryer to a *warp conditioner*.

The Brown Moist-O-Graph Controller pioneered a forward movement in textile plant efficiency. It eliminates mildew—saves steam—prevents damage to fibres—eliminates broken ends in weaving—shedding in the loom, thereby increasing weave room production.

The Moist-O-Graph Control System operates on an electronic principle measuring the moisture content of the slashed yarn by its electrical resistance using a detector roll (1) mounted above yarn and resting on back press roll.

BROWN MOIST-O-GRAPH

For COTTON and RAYON SLASHERS

Steps Up Production

The measurement is electrically transmitted to the Moist-O-Graph Recording Controller (2) which simultaneously indicates, records % moisture content and automatically controls slasher speed.

The desired % regain is set by adjusting a visible index on the Moist-O-Graph scale.

Push-button control stations mounted in cabinet door permit operators to modify slasher speeds when changing sets or when, for any reason, it may be desired to operate slasher at "creeping" speeds.

CYLINDER TEMPERATURE CONTROL

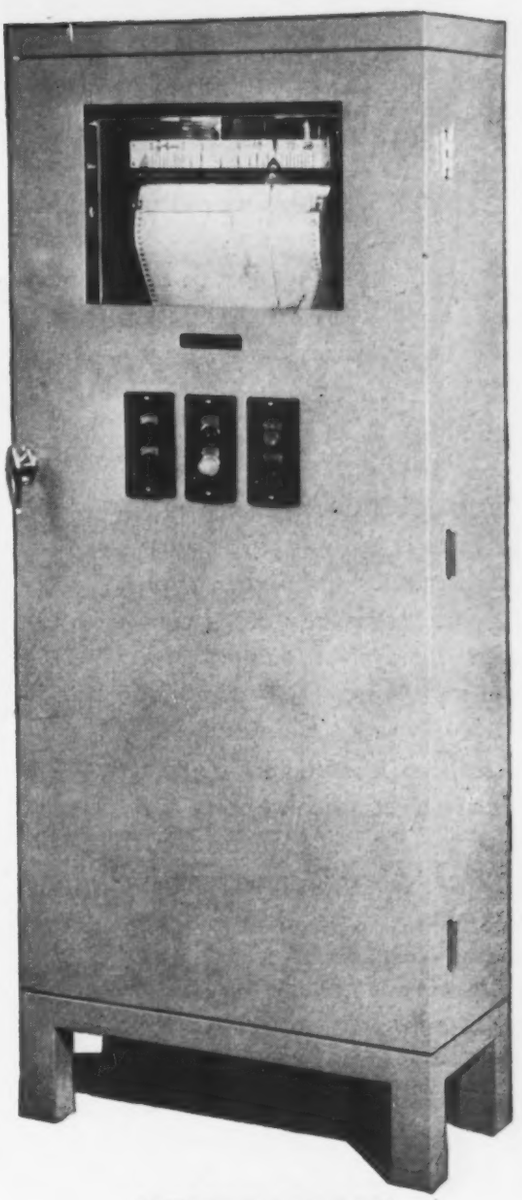
Uniform cylinder temperature control is maintained by Brown Recording Temperature Air-Operated Controller (3) which actuates diaphragm valve (7) regulating steam flow to cylinder.

SIZE BOX CONTROL

Correct temperature of sizing solution is maintained automatically by Recorder Thermometer Air-Operated Controller (4). The bulb (8) is immersed in size solution and the Recording Air-Operated Temperature Controller actuates diaphragm valve (7), governing the heat input to size box.

Size Box Level Control is the logical means of insuring uniform immersion of the yarn in sizing solution. Two electrode assemblies (6), maintain the size level with minimum differential. "Foaming" or "caking" of size solution or change in atmospheric conditions do not affect sensitivity or accuracy of this unusual system. The size does not vary more than 1/4 inch assuring correct saturation and uniform coating of fibres. Control relays (5) mounted on rear of panel board actuate diaphragm valve (7) on size solution inlet.

Brown engineers at Atlanta, Boston and Charlotte are as near as your telephone. Call them or write the Brown Instrument Company, a division of Minneapolis-Honeywell Regulator Company, 4509 Wayne Avenue, Philadelphia 44, Pa. Offices in all principal cities. Toronto, Canada - London, England - Stockholm, Sweden - Amsterdam, Holland.

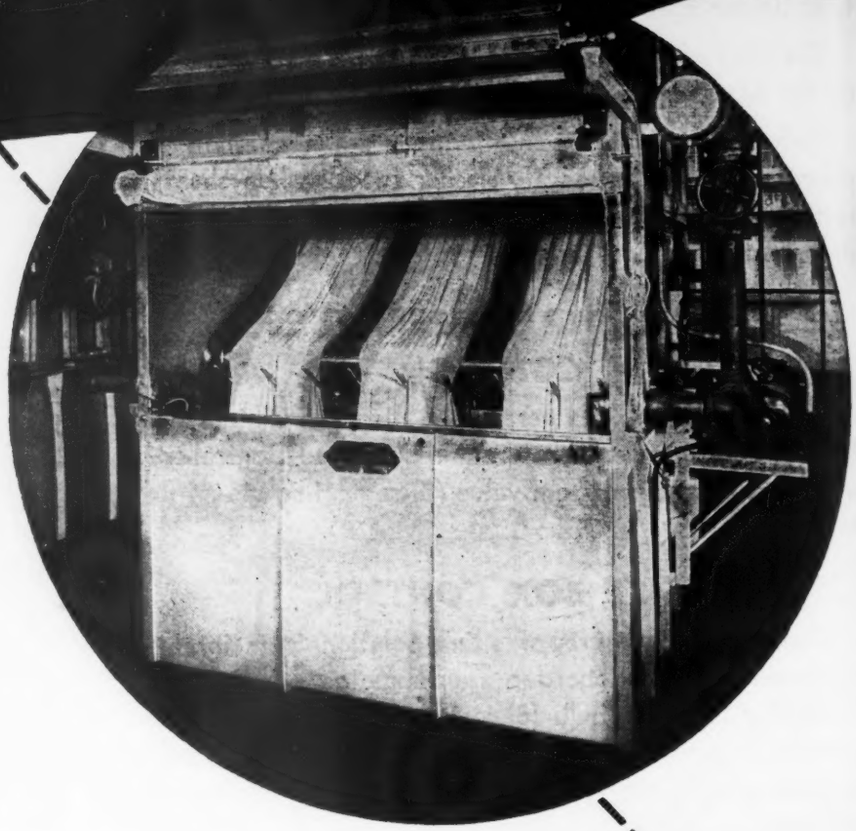


MOIST-O-GRAPH
Temperature Controller

SLASHER CONTROL SYSTEM

OVER 400 INSTALLED

Colors Stay True when you use stainless equipment



Yes, true color consistency in textiles *is* important. It assures steadier sales and bigger profits. One way to insure uniform colors from one dye vat to another is to use wet-processing equipment made of ARMCO Stainless Steel.

Its hard, smooth surface means that you get no color carry-over. Delicate shades are not affected by chemical reaction on sensitive dyes. No "corrections" are needed. And there is no danger of "spotting" caused by contact with equipment.

Efficiency goes up, production costs go down. No boil-outs are needed. Equipment is easily cleaned with a quick rinse and you get greater production with fewer units. Solutions retain their strength longer.

Equally important, ARMCO Stainless increases service life and reduces upkeep. Being solid stainless steel there is no plating to wear off.

Let your equipment fabricator show you how other mills are profiting from the use of ARMCO Stainless Steels. There is a grade for practically every application. The American Rolling Mill Co., 1621 Curtis St., Middletown, O.

Export: The Armco International Corporation

8 BIG ADVANTAGES OF STAINLESS

1. No Rust
2. True Colors
3. No Boil-outs
4. Fewer Rejects
5. No Snagging
6. Greater Output
7. Lower Maintenance
8. Longer Service

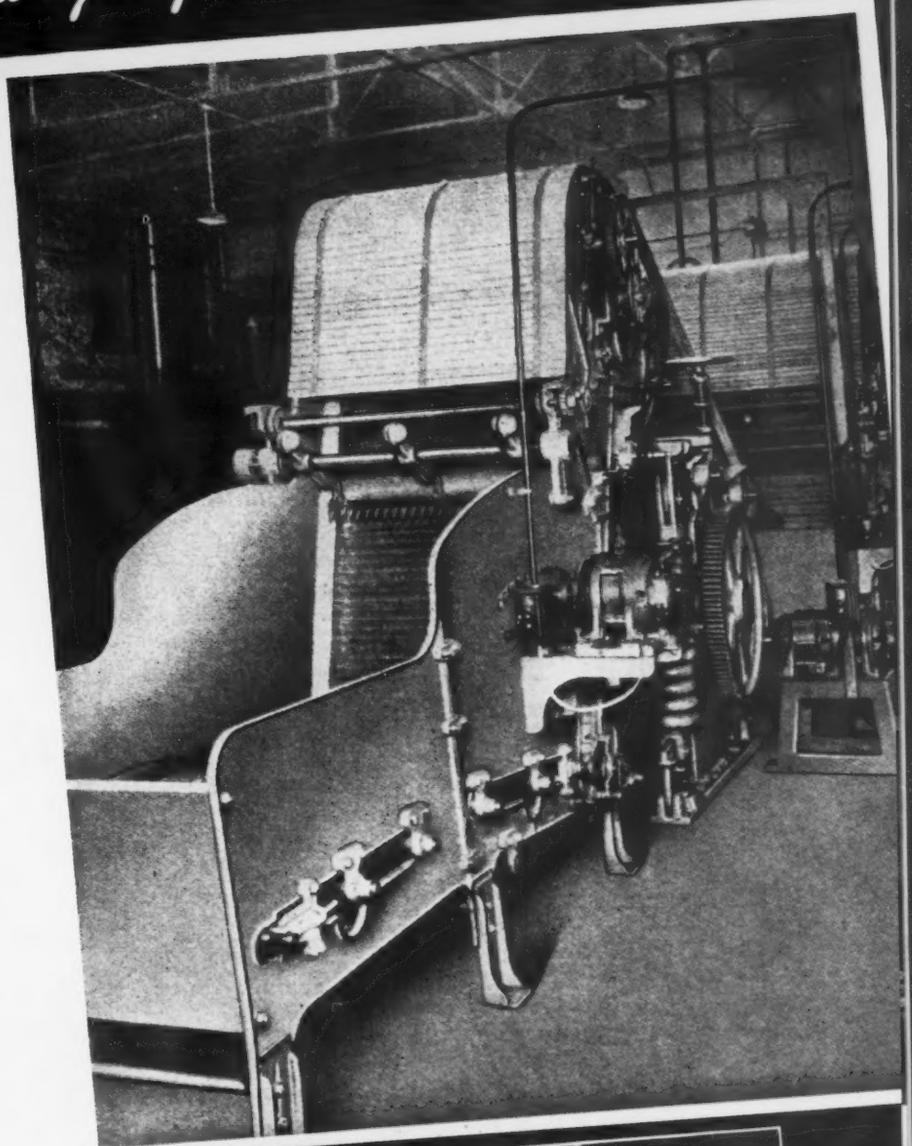
STAINLESS ARMCO STEEL

ARMCO STAINLESS STEELS

SARGENT'S

CONTINUOUS – AUTOMATIC EXTRACTING MACHINE

Reduces drying costs to a minimum



TODAY'S MODERN EFFICIENT METHOD

The SARGENT "CONTINUOUS" EXTRACTING SYSTEM *is saving thousands of dollars for many woolen, worsted and cotton mills. It employs an Automatic Feeder, the Extracting or Squeeze Roll Machine, and a Stock Dryer. This method of removing surplus dye, bleach, or scouring liquor from wool, staple rayon fibres, shoddy, mixed fibres, cotton and cotton linters, before drying, offers many distinct advantages,*

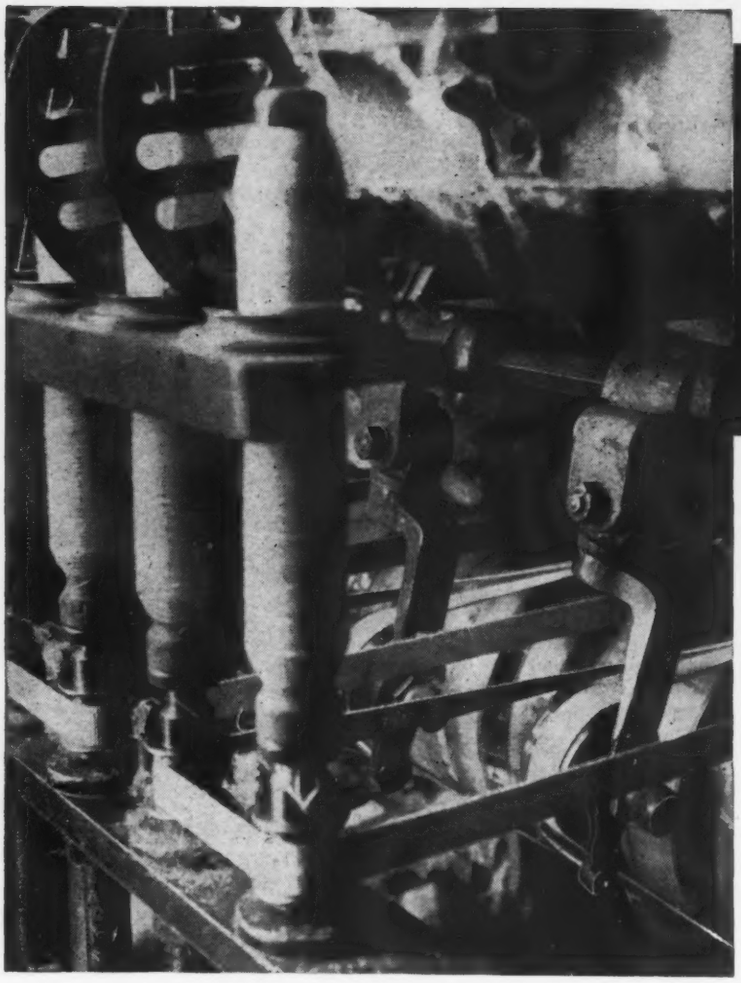
- One-man operation, with capacity up to 2,500 pounds per hour.
- Machines made in five widths for varying plant requirements.
- Even and continuous flow of material into and through the dryer.
- Uniform drying results—Savings in power—savings from continuous action—savings in labor, with ease of operation.
- Greater speed of operation, with least danger hazard.
- Stock is better conditioned, containing fewer "bunches." Eliminates most of the usual matted condition of stock coming from a hydro-extractor.
- Pneumatic load lift, with pressure control. Approximately 10 tons pressure between rolls.
- Direct motor drive. Spherical roller bearings on the squeeze rolls.
- Rugged construction. Trouble-free operation.

Write us for complete details

Detail of the Pneumatic Load Lift with Control.

C. G. SARGENT'S SONS CORPORATION

GRANITEVILLE, MASSACHUSETTS, U.S.A.



Ball Bearing Tape Tension Pulleys

Complete Service for any Application

Tape tension pulleys should run freely—the reason why ball bearing tape tension pulleys are preferred equipment on any spinning frame or twister frame. Ball bearing tape pulleys insure minimum drag, freedom from wear, and are sealed against lint or fly. They reduce breakage, after shut-downs and in poor weather, resulting in more production. They save power and lengthen tape life. There are no "ends down" from pulleys sticking, with ball bearing pulleys on your frames. They are also inexpensive to install. One pulley is used for each four spindles reducing the cost to a few cents per spindle. West Point Foundry and Machine offers you a *complete* service. Pulleys in the proper size and specifications for any applications. And we have patterns on hand for brackets for all styles of frames. Let us give you full information, quotations and recommendations on this service.

WEST POINT FOUNDRY & MACHINE CO.

(Batson-Cook Company, Owners)

WEST POINT, GEORGIA

Sheer Magic . . . The matchless beauty of flawlessly-knit stocking fabrics lends a spell of sheer enchantment to milady's ensemble. Full-fashioned stocking fabrics made with TMW Needles are your assurance of high quality and high profits. Keep your Knitting Machines young and effective with TMW Needles . . . *And remember: Regular Reneedling Pays! Let us put your needle bars in shape for faster, more accurate, more profitable knitting.*

TEXTILE MACHINE WORKS • READING, PA.

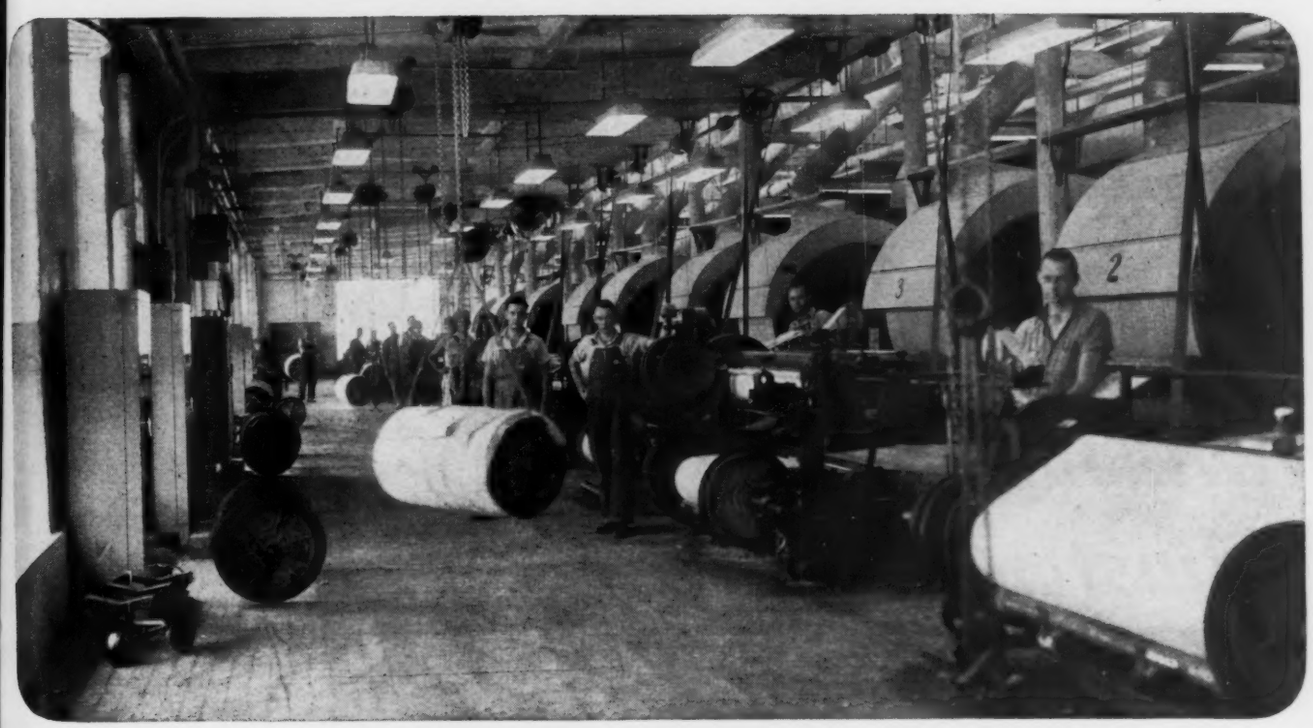
"A wise man adapts himself to circumstances."

CHINESE PROVERB

Until production schedules will permit prompt delivery of the new high-precision READING Full-Fashioned Knitting Machine, our Engineers will do their utmost to help you keep your present equipment at highest efficiency. Let us tell you about our complete reconditioning service and what it means in terms of better fabrics and higher profits.

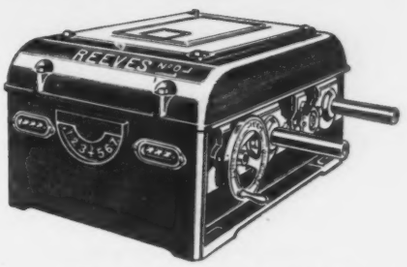
TEXTILE MACHINE WORKS • READING, PA.

New Slasher Drive...



30 REEVES Variable Speed Transmissions are in use in this modern Slasher room

Combines Noiseless Operation, Accurate Stretch Regulation, and Complete Push-Button Control in Simplest Form . . .



REEVES Variable Speed Transmission, horizontal enclosed design

•From every standpoint—mechanical simplicity, efficient operation, results accomplished, and ease of maintenance—the new REEVES Slasher Drive represents an important advancement in modern textile processing.

The REEVES Slasher Drive operates noiselessly because it eliminates the conventional drive assembly, consisting of two shafts with tight and loose pulleys, direct gears and back gears, and drives directly to the front end of the slasher. The number of running parts subject to wear and requiring maintenance is reduced to the minimum.

With this REEVES installation, the usual positive drive to the size box rolls is removed. Accurate stretch regulation between size box and front roll is obtained with Micro Speed Adjuster, which can be set for zero or any per cent of stretch above zero with the assurance that the setting will be held perfectly without further adjustment by the operator.

Yarn tension between front roll and loom beam is *automatically* controlled, providing a beam of uniform density from start to finish, an important factor in reducing end breakage. The yarn's retention of its elasticity prevents end breaks in the loom and loom stops . . . produces cloth free of defects . . . assures maximum production of highest quality goods in the weave room.

The REEVES Slasher Drive features complete push-button control, with as many control stations as desired. There are no complicated controls to adjust, set or maintain. A new slasher man can step right in on the job because all he has to learn is to press three standard push buttons, marked "Stop," "Creep" and "Run." He can always start at slow speed and quickly attain the desired running speed.

The installation represents the simplest form of drives and controls which can be serviced and maintained by any mechanic with eyes to see and hands to use a wrench or screwdriver.

The REEVES Slasher Drive may be operated with any moisture content control (see illustration above, left) and its operation is entirely automatic.

For production of a better product at a faster rate and at a lower cost, investigate the REEVES Slasher Drive. A seasoned REEVES Speed Control engineer will give you complete details. Write today.

REEVES PULLEY COMPANY • DEPT. W • COLUMBUS, INDIANA

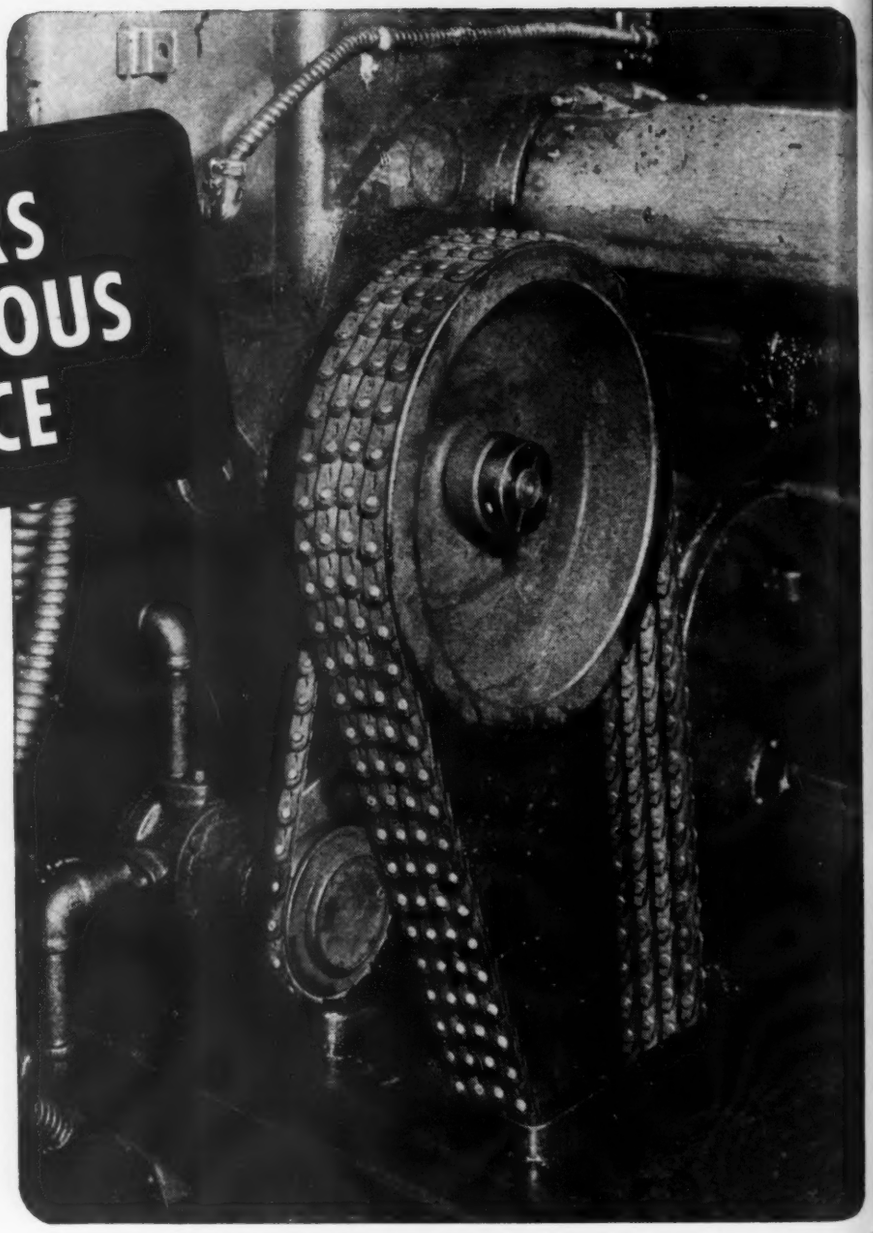
Accurate Variable

REEVES Speed Control

Gives the Right Speed for Every Job!

2 YEARS CONTINUOUS SERVICE

without 1 Adjustment



Two Veelos V-belt drives on No. 5 Gisholt Lathe. 4 Veelos "B" belts operate the main drive; 1 Veelos "B" belt operates the oil pump.

ON FEBRUARY 3, 1944, five Veelos V-belts were installed on this No. 5 Gisholt Lathe—located in a large steel plant. They have been in continuous operation ever since—*under severe conditions. Yet these belts have never once been adjusted and are reported remarkably free from slip.* Idlers used on the former belt installation were removed when Veelos went on.

On all V-belt drives that call for uniform belt tension without difficult adjustment and for freedom from slip, link construction makes Veelos the logical choice because:

Link Construction Maintains Uniform Tension

Easy adjustment of Veelos length assures that each strand of a multiple V-drive carries its exact share of the load. All strands constantly work together, *delivering full power.*

Link Construction Ends Slip

Veelos link construction provides quick, easy tension adjustment to end slip . . . keeps machinery running at full speed and productivity.

In many textile plants, Veelos has set a record for outstanding performance. Write today for the full story.

MANHEIM MANUFACTURING & BELTING CO.
MANHEIM, PENNSYLVANIA

LINK CONSTRUCTION UPS PRODUCTION

VEELOS
THE LINK
V-BELT

Adjustable to any Length
Adaptable to any Drive

TECA*
fiber for tropicals
There's a post-war summer coming up — and handsome, heat-beating Teca suitings are ready to meet the heavy demand.
Here are famous-name tropicals — zephyr-weight spun rayon blends woven with thirty to seventy-five per cent of this lively *crimped* acetate staple in combination with spun viscose staple.
The more Teca, the richer the weave, the better its shape-holding qualities, the greater its resistance to shrinkage.
For all types of men's wear fabrics — for suits, shirts, slacks and lounging robes — Teca is out in front.
*EASTMAN CRIMPED ACETATE RAYON
For further information about TECA consult A. M. Tenney Associates, 10 East 40th Street, New York 16, sales representatives for TENNESSEE EASTMAN CORPORATION (subsidiary of the Eastman Kodak Company), KINGSPORT, TENNESSEE.

"With Gulf Quality Lubricants

every loom produces its full quota of yardage—month in and month out!"

says this Superintendent

(Left) Actual photo of a Mill Superintendent (right) consulting with a Gulf Lubrication Service Engineer on loom lubrication. (Above) Regular lubrication with Gulf quality oils and greases pays this mill big dividends.

"GULF QUALITY LUBRICANTS not only help us keep maintenance costs at an exceptionally low figure, but enable us to get full production each month from every loom," says this Mill Superintendent. "Thanks largely to proper lubrication, we haven't had a loom down for repairs for over three years—and our looms are high speed, operating 120 hours per week!"

Gulf Quality Lubricants are writing a list of tangible benefits in the operating records of hundreds of mills from Maine to New Mexico. This "dividend" list includes less wear, improved efficiency, reduced fire hazard, lower maintenance costs, and greater production.

Call in a Gulf Lubrication Service Engineer today and ask him to recommend the right lubricant and its proper application for each bearing and moving part in your mill. You can rely upon his recommendations —they are based on broad experience with equipment similar to yours.

Gulf Oil Corporation · Gulf Refining Company

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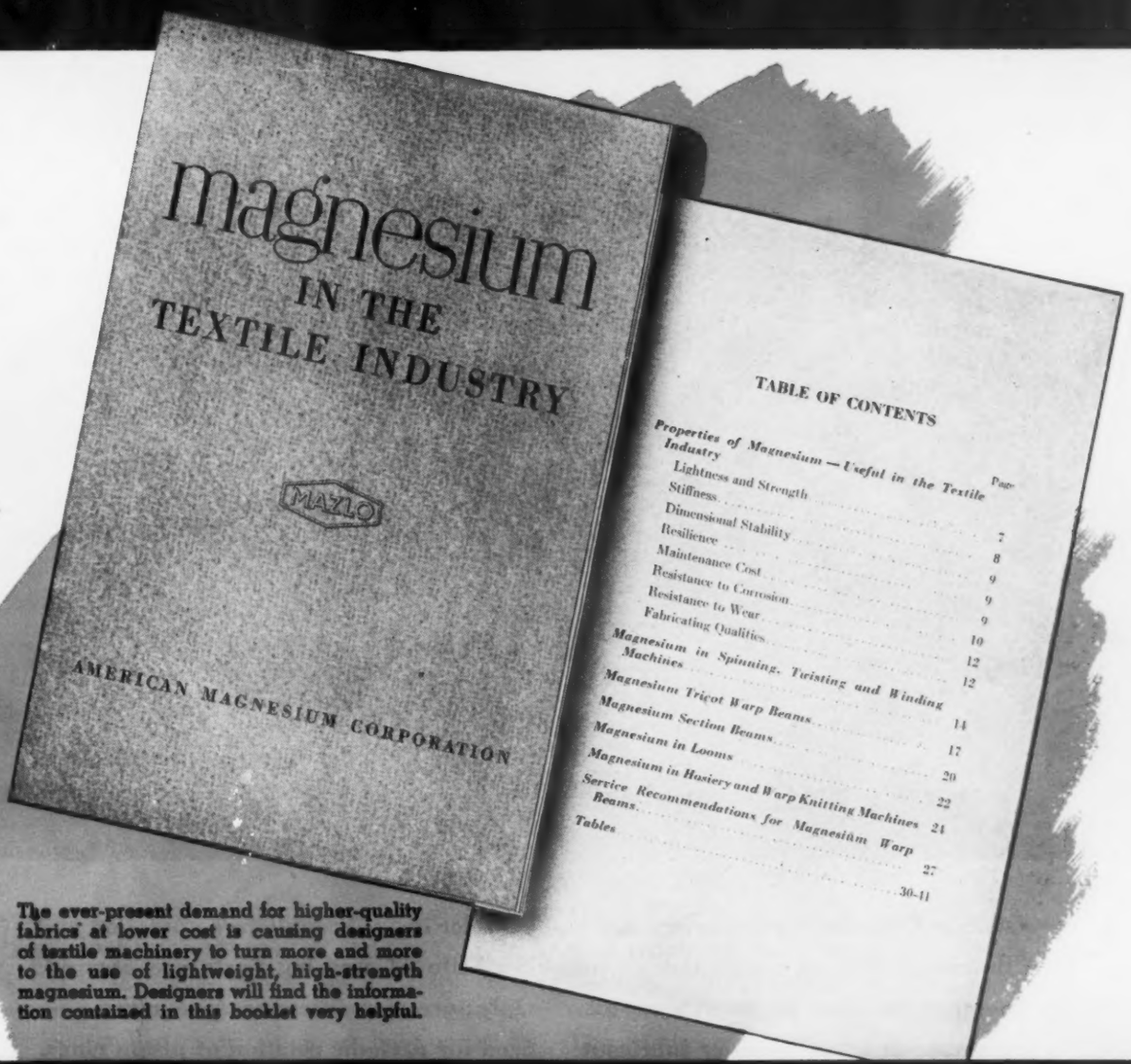
GULF INDUSTRIAL LUBRICATION

What every Textile Machine Designer should know about MAGNESIUM



The ever-present demand for higher-quality fabrics at lower cost is causing designers of textile machinery to turn more and more to the use of lightweight, high-strength magnesium. Designers will find the information contained in this booklet very helpful.

AMERICAN MAGNESIUM CORPORATION

SUBSIDIARY OF ALUMINUM COMPANY OF AMERICA

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(Sales Agent for Mazlo Magnesium Products)
1708 Gulf Building, Pittsburgh 19, Pennsylvania.

Please send me "Magnesium in the Textile Industry".

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CP Oil-less Cylinder Compressors have been developed for use where the air or gas compressed must be free from oil. No oil, grease or other cylinder lubricant is required. Piston and rod, completely supported by crossheads, are full floating, removing all weight from cylinder walls and stuffing boxes, thereby avoiding wear of carbon piston rings and hardened steel cylinder liner. Trouble-free operation and long life of wearing parts are assured. Only normal maintenance is required — no need for periodic rotation of piston rings.

CP Oil-less Cylinder Compressors are arranged for belt, motor or steam drive, in single stage and two-stage types. They are available in a wide range of sizes and ratings. Write for complete information.

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SAYS
UNION TWIST DRILL COMPANY

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GEAR & MILLING CUTTERS, HOBS
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ATHOL, MASS., U.S.A.
December 7, 1945
Mark Reply For J. H. HORIGAN
U. S. Gutta Percha Paint Company
Providence, Rhode Island
Gentlemen:
We consider WHITE the ideal paint color for our ceilings and sidewalls, as it reflects and distributes the light - both natural and artificial - to the greatest possible extent and presents a most attractive appearance. We will use nothing but your famous "BARRELED SUNLIGHT" whites which have given us complete satisfaction for nearly thirty years.
A good paint job aids materially in the production of our precision tools, and in the uplift of employee morale. Much of the favorable comments we receive on our good housekeeping should be credited to "BARRELED SUNLIGHT" whites.
Very truly yours,
UNION TWIST DRILL COMPANY
J. H. Horigan
Secretary
JHH:CF

When workers see easily, quickly and accurately, plant efficiency automatically increases.

Good light is vital to good seeing, but the glare, harsh shadows and extreme brightness contrasts due to improper reflection and distribution of light must be avoided. Lighting authorities agree that *proper* reflection and distribution are best achieved through proper painting of plant ceilings and walls.

Union Twist Drill Company, like many other leading concerns throughout the country, has found WHITE to be the best color for painting these areas because, as they say in the above letter, "it reflects and distributes the light, both natural and artificial, to the greatest possible extent."

The relation of Light, Paint and Color to good seeing and general plant efficiency is explained in our free illustrated booklet, "Color for Industry." To get your copy, just fill out and mail us the coupon TODAY.

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SPECIALISTS FOR NEARLY FIFTY YEARS
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ROUND, PARALLEL-SIDED, RIDGELESS BOBBINS PRODUCED AUTOMATICALLY AT HIGH SPEED

This is a view of the installation of Universal No. 99 Automatic Bobbin Winding Machines at Hoosac Mills, North Adams, Massachusetts.

LOOK FOR ALL 3 IN CONSIDERING AN AUTOMATIC MACHINE . . . *A proven bobbin-building method*—gives uniform bobbins... *Positive spindle drive*—you get all the production you expect . . . *Electrical controls*—combined with mechanical controls to simplify design.

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High Speed Bobbin Winding Machine

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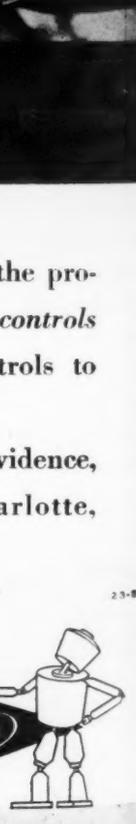


. . . Putting Electricity to Work to Improve Your Bobbin Winding

THE PRESIDENT'S WAGE-PRICE POLICY WON'T WORK

THE AMERICAN public had every right to expect that the long-awaited wage and price policy would break the impasse blocking the way to the swift and orderly reconversion of industry from war to peace.

The policy announced offers little promise of such solution, and this may well constitute a national calamity.

There is only one thoroughly constructive feature of the Presidential Statement of February 14 and its implementing Executive Order. It is the first Government pronouncement since the defeat of Japan to clearly define inflation as the major danger confronting us in the period immediately ahead.

That is a correct appraisal, and one long overdue. Up to now Government spokesmen, almost invariably, have sought to carry water on both shoulders. The Administration has justified its policy of promoting wage increases as a measure necessary to forestall deflation — to keep purchasing power from falling and forcing the economy into a violent tailspin. The strict holding-of-the-line on price ceilings has been defended as necessary to prevent runaway inflation. Unfortunately, while the President now exhorts all to enlist in a crusade against inflation with a voice that is clearly Jacob's, his program for dealing with it still employs the hairy hands of Esau to promote the very danger which he is urging everyone else to combat.

The "new" policy provides for a continuation of the wage increases that have been pressured through by Government mediators, "fact-finding" boards, and direct seizures until they have been made general throughout industry upon the dimension established in recent patterns. It offers industry the single concession of prompt hearings and decisions upon claims for price advances, but the yardsticks for judging such claims are exactly those which OPA has applied in the past. Since the past procedure has led us into our present difficulties, it is hard to see how it will serve now to lead us out of them.

Past Government Policy Fostered Dissension

At the war's end, it was obvious to everyone that what was needed was the swiftest possible reconversion of industry. It should have been equally apparent that we were faced with the difficult problem of controlling tremendous inflationary pressures which would be particularly insistent until peacetime production could be mobilized at high volume. This was made almost inevitable by the huge backlog of accumulated demand, for both capital and consumer goods, and by the unprecedented volume of liquid funds at the disposal of individuals of all classes. The only circumstance that could have modified the inflationary complexion of the postwar picture was the possibility of such wholesale and prolonged dislocation and unemployment in the process of readjustment that people would have been frightened into freezing onto their savings instead of spending them.

It soon was apparent that just the opposite was taking place. The early transition was extraordinarily swift, unemployment was lower than anyone had dared hope, and civilian spending outstripped all previous records. The circumstances called for strong anti-inflationary fiscal measures, along with a firm maintenance of price and wage controls alike.

Instead of adopting such a balanced program, the Government immediately discarded all wage controls, and in addition started an active campaign for promoting large wage increases. The President, upon a number of occasions stated flatly that American industry generally could and should grant substantial pay advances without any compensating price rises. His Office of War Mobilization and Reconversion estimated that average increases were practicable to the extent of 24 per cent. Given such Governmental encouragement, it was inevitable that labor leaders should do exactly what they did—file extravagant wage demands at the beginning of the reconversion process, when accurate appraisal of production schedules and costs were least susceptible of calculation, and when the shortage of civilian goods multiplied the inflationary effect of any increase in purchasing power.

At the same time, the OPA was fighting to hold the price line in a good cause, but with singularly inept procedure. It acted, seemingly, upon the premise that it was always better to give less price relief than was needed rather than enough, that relief provided under its formula was preferably to be granted later rather than on time, and that the interests of lower-bracket income receivers should be protected by a particularly tough resistance to raising prices of cheaper goods. The latter procedure seems to have boomeranged by virtually driving many of the lower-priced lines off the market.

The sum of these wage-price procedures resulted in work-stoppages of epidemic scope. Many business concerns faced with the prospect of immediately unprofitable operation, uncertain that new wage demands would not be made with Government support as soon as volume production was established, and without assurance as to when price controls would end, refused to assume inevitable losses even when confronted with combined union and Government pressure. The fight was on.

"New" Policy Differs Little From Old

With inflation now clearly recognized as the immediate danger, it might have been expected that the new wage policy would reverse the former practise of lending active encouragement to new wage advances. But that would have brought down upon the Administration the wrath of all organized workers who had not yet been granted increases already bargained through by other groups. This was avoided by directing the National Wage Stabilization Board in effect to approve any wage increases necessary to give general advances comparable to those already made. The only brake applied on the wage side lies in a directive to the Board not to approve, as a basis

for price relief, wage advances that go beyond the established pattern.

On the price side, the new directives to the OPA entail no important departure from its past procedures. Even the concession to review "hardship" cases promptly rather than after six months is only a pious hope, since it is unlikely that OPA is equipped to deal rapidly with the thousands of cases that will arise. A hardship case is defined as one in which, after absorbing an approved wage advance, an industry or establishment in a twelve months' period of normal-rate operation is judged by the Price Administrator likely to operate at a rate of profits to net worth less than it averaged in the base period of 1936-1939.

Let us see what this really means. In the first place, the rate of manufacturing profits in the base period was only moderate. But since the average net worth of manufacturing corporations has increased one-third over what it was in the base period, the application of the OPA formula, *assuming that its Administrator correctly appraises the twelve-month outlook,* seems to provide for absolute profits one-third higher than the 1936-1939 average.

The OPA formula, however, applies to profits *before taxes.* What really matters to stockholders is profits *after taxes.* Corporation taxes have been increased from an average of 17 per cent in the base period to 38 per cent now. This means that the price adjustments granted by OPA on average will yield profits *after taxes* no larger in dollar terms than in the 1936-1939 period, although 1946 manufacturing sales are expected to be more than twice as high. Under this procedure the *ratio* to net worth of profits *after taxes* will be one-fourth lower than the 1936-39 average. This clearly undermines the incentives upon which production at high level depends.

The workers get wage increases which promote inflation. The Government, bailed out from its previous mistakes, gets political credit for raising wages. And the entire bill is handed to American industry for payment.

But the Danger of Inflation is Real

Under these circumstances, there is a growing demand on the part of business groups that price controls be rescinded immediately. It is argued that, once the restrictive influence of price controls is relaxed, capacity production soon will supply sufficient goods to prevent undue price inflation.

It is understandable that business should wish to be rid of Government controls which have operated in such a thoroughly inconsistent and damaging fashion. Unfortunately, there is ground for believing that more harm might result from this cure than from the disease.

There is nothing in our situation that could bring on the kind of inflation that has been experienced by certain countries of Europe and Asia—in which the value of currency deteriorates until it takes a cartload to buy a pair of shoes. But our situation now is definitely more threatening than it was in 1919, after the first World War. At that time wholesale prices and the cost-of-living skyrocketed almost 25 per cent within twelve months. If we discard all controls now, as we did then, prices might easily go up from 25 to 50 per cent in a year's time.

An inflation of that dimension can do tremendous damage. While it lasts, all those dependent upon fixed incomes are damaged—all bondholders, including those who hold war bonds, all life insurance and annuity beneficiaries, all pensioners. Generally, the purchasing power of wages and salaries would shrink, with white collar and unorganized production workers hardest hit. Controlled-rate industries, such as railways and other utilities, would be squeezed. General business would suffer least of all—while the boom lasted.

But such soaring booms cannot last. The 1919 boom burst in mid-1920. By summer of 1921 industrial prices had fallen 40 per cent and industrial production was off 35 per cent; farm prices had fallen 50 per cent. This time the boom might soar higher and last longer, but that would merely result in an even more precipitous drop. Business would be hard hit along with everyone else, and high wage rates would mean nothing to the unemployed.

Controls Must be Consistent and Progressively Relaxed

But if the Nation cannot afford to risk disastrous inflation by immediately abolishing controls, neither can business afford to accept the program which the Administration now proposes.

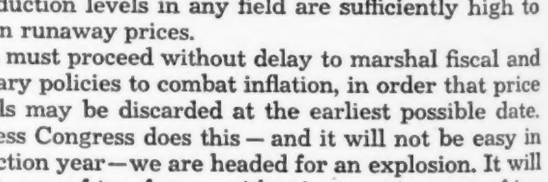
The wage-price policy will not hold the inflation line so long as the Administration is leading the assault to breach that line on the wage side, as it has done ever since VJ-Day.

The Administration is now going before Congress to ask for a broad extension of its wartime powers for an additional year beyond June, 1946.

Congress must see that this is not granted except upon terms that guarantee the use of such power with a consistency that has been conspicuously absent up to now.

1. It must provide sufficient price relief to yield profits normal to high-level operation.
2. The basis for price relief must be clearly defined and geared to actual costs of operation at the earliest possible date.
3. OPA administrative procedures must be speeded-up and streamlined, or the delays that characterized past administration will become intolerable.
4. It must see that, once established, the new line is held as long as wartime controls are continued by enforcing restrictions on wages as well as prices.
5. It must set an early date for the termination of all wartime controls and provide for progressive and bold steps for de-control to be taken before that date, as soon as production levels in any field are sufficiently high to restrain runaway prices.
6. It must proceed without delay to marshal fiscal and monetary policies to combat inflation, in order that price controls may be discarded at the earliest possible date.

Unless Congress does this—and it will not be easy in an election year—we are headed for an explosion. It will come in one of two forms—either in a continuance of industrial strife, or in a rocketing inflationary boom that can only end in collapse and depression.



President, McGraw-Hill Publishing Co., Inc.

THIS IS THE 45TH OF A SERIES

TEXTILE WORLD'S Show in Print

***HERE IN PRINT** are the highlights of the textile show which had been planned for Greenville next month but which had to be postponed because of housing, dining, and transportation shortages (intensified by personnel being transferred to the Greenville Army Air Base) and the inability of some manufacturers to have equipment ready for display.*

*Read the **SHOW IN PRINT** in the comfort of your office or home; and, as new items develop, you can read about them too in the pages of succeeding issues of TEXTILE WORLD.*

★ ENGINEERING

Much important equipment and many different materials are utilized in setting the stage for textile production machinery—the building, the background, the temperature and humidity, the degree of illumination (day or night), the facility for moving materials about the mill, and the general care of all the apparatus. Adequate buildings to protect from the vagaries and severity of the outside elements are the first essential. Inside the building the climate is important; and, since it must nearly always differ from the climate outside, heating, cooling, humidifying, drying, and filtering apparatus is necessary. Seeing by operatives is aided now by suitable colors for walls and machines, and of course by the proper number of foot-candles on the work. The job of moving goods and materials from step to step of manufacture is less and less a matter of human effort, as devices and systems are provided to cut the time and the direct labor involved in mere transporting. The makers of these engineering facilities are bringing nearer the time when the ideal stage-set may be realized and the highest performance obtained of which the textile machines are capable.

• In these pages are given brief descriptions of the equipment you might have seen in Textile Hall had the Southern Textile Exposition been held this year. You might have come away with catalogs or more detailed data on some of this equipment which had particular appeal to you. TEXTILE WORLD will be glad to get this literature or additional data for you if you will merely turn to page 190 and use the upper of the two self-addressed, postage-paid postcards you will find there to advise us of the products you are interested in and the names of their respective manufacturers.

Air Conditioning

Progress in air-conditioning techniques is evidenced in the many systems offered to the textile industry for modernization of existing mills or efficient equipping of new mills. Refrigeration, evaporative cooling, and air-filtering are among the newer features. Optimum conditions for efficient manufacture and employee comfort are the goal.

AMERICAN AIR FILTER CO., INC., Louisville, Ky. ***Air filtration and dust control.***

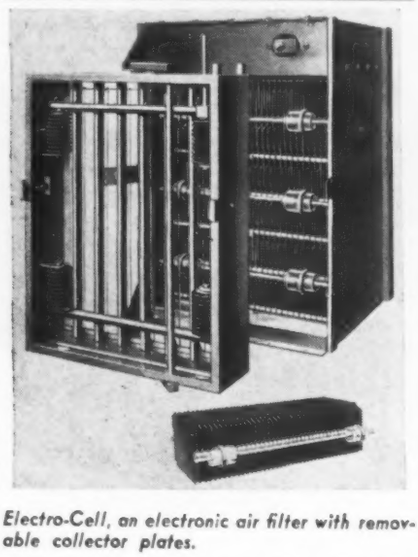
This company's Electro-Cell and Electro-Airmat filters are entirely new additions to the line and round out a complete line of electronic air filters. The Electro-Cell is a unit type filter with removable collector-plate assemblies. The positive and negative plates are assembled on crossrods in horizontal groups which may be slid in and out of the filter casing in the manner of a desk drawer.

The Electro-Airmat is the latest addition to the line and introduces a new principle in the use of electrostatically charged Airmat paper. It is said that the arrestance rating of this filter is 90% or better with dust or smoke tested by the discoloration method at 35 ft. per min. through the media giving a 1000 cu. ft. per min. per standard 24x24 in. unit. This filter weighs 40% less than electronic filters with metal plate collectors and requires 30% less floor area.

The company is offering a new Model E

TEXTILE WORLD'S Show in Print

Electro-Matic filter which combines electrical precipitation as an integral function of a self-cleaning air filter to obtain the ultimate in high-efficiency air cleaning. The negative collector plates are on two endless chains which form a continuous movable curtain. It rotates through an oil bath where the dust deposit is removed.



Electro-Cell, an electronic air filter with removable collector plates.

AMERICAN MOISTENING CO., Providence, R. I. ***Humidifying devices.***

The company is stressing the Amco lines of self-cleaning atomizers, evaporative cooling equipment, fabric dampeners, and control stations. The evaporative cooling system comprises ventilating means and humidifying means, coordinated for best results under all conditions. Control is automatic and air is handled at window transoms, thus doing away with ducts. The fabric dampener, "dews" the surfaces to be dampened with atomized spray which is easily regulated. The even distribution of water vapor lends improvement to the feel and appearance of the finished goods. Amco humidity controls use an animal membrane as the hygroscopic element, the contraction and expansion of which is said to be independent of temperature and affected only by humidity. These controls are said to hold the relative humidity in a room under actual operating conditions to within 1 to 2% of the desired figure without attention or care.

THE BAHNSON CO., Winston-Salem, N. C. ***Industrial air-conditioning equipment.***

This company is featuring the following two items:

The Bahnson economizer, which is an industrial atomizer designed to operate on the principle of filtered water under pressure with a constant differential maintained between the air and water pressure. Each unit can be made to operate at any desired capacity and at any required quality of spray by merely changing the pressure of the air and water fed to it. Under many conditions, the economizer is said to consume only half the air required by the conventional type atomizer for the same amount of evaporation.

The Bahnson automatic self-doffing condensor provides automatic cleaning of the recirculated air-intake of the Bahnson Humiduct unit air-conditioning system. The foreign matter in the air, such as lint and size in a textile mill, is collected on a cylindrical surface in the cleaner as the air is drawn to the recirculating opening. Automatic timing periodically revolves the cylinder for cleaning and doffs the accumulated solid matter into a container for easy removal. The condensor is available in different designs to meet applications where the first load is composed primarily of lint where the dirt load consists of size and other suspended matter.

BUFFALO FORGE CO., Buffalo, N. Y. ***Fans and air-conditioning equipment.***

This company offers a new-design vane-axial flow fan which features straight-line air flow. Use of this fan is said to effect material savings in duct work, structural supports, and overall dimensions. The company also offers modern versions of power-plant fans, centrifugal ventilating fans, and air-conditioning equipment.

DE BOTHEZAT FANS DIVISION, AMERICAN MACHINE & METALS, INC., East Moline, Ill. ***Ventilating equipment.***

The company features heat and vapor exhaust systems in which the De Bothezat Bifurcators are installed directly in the duct. The system handles corrosive or high-temperature fumes and gases as the motor is isolated from the fumes. Other items stressed for textile mill use are special roof ventilators which it is said offer positive ventilation regardless of temperature, humidity, or wind velocity. Also offered are general exhaust systems and Hy-V air jet blowing units.

Roof-ventilator which gives positive movement of air regardless of temperature, humidity, or wind velocity. (De Bothezat)

PARKS-CRAMER CO., Fitchburg, Mass. ***Humidifiers, air-conditioning, humidifier controls, and traveling cleaners.***

This company features its Parks Turbomatic self-cleaning atomizer and the Park Spray high-duty humidifier; also the Park Spray psychrostat for controlling humidifiers and other air conditioning functions, and the Parks hygrostat for controlling humidifiers. The company offers "Certified Climate" installations, including Parks automatic air changer, Parks central-station air-conditioning, and Parks laboratory air-conditioning. The company continues its line of traveling cleaners for spinning and other textile machinery including the Parks Turbo cleaner and a bunchless automatic cleaner.

STEAMAIRE CO., Cincinnati, Ohio. ***Humidification and evaporative cooling.***

This company features a complete and automatic unit which generates high-pressure steam by electricity. A cold vapor is produced by mixing one part steam with six parts cold water. From the spray nozzle this vapor is ejected in two directions. The unit is suitable for year-round service, particularly where steam is not available.

B. F. STURTEVANT CO., DIVISION OF WESTINGHOUSE ELECTRIC CORP., Hyde Park, Boston, Mass. ***Air moving equipment.***

This company has the textile field in view in the design of several of its products. In particular there is offered a textile-type unit heater, and a slasher exhaust fan with totally inclosed motor. There is also the Design No. 9 centrifugal compressor and an elbox axial flow pressure fan so arranged that the motor is located outside of the air stream.

Lighting

and Other Electrical Equipment

Lighting is currently viewed as a factor in increasing production efficiency, improved safety, and adding to the comfort of employees. Much improved equipment lends itself toward these ends.

ALLIS-CHALMERS MFG. CO., Milwaukee, Wis. ***Motors, drives, pumps, etc.***

The Quick-Clean textile motor has been redesigned to incorporate a number of improvements and is being featured among the Allis-Chalmers offerings to textile mills. A small pump is also being offered as especially adapted for handling a variety of the fluids used in textile plants. Among the drives are the Texrope constant and variable speed drives, as well as the Texrope speed-changer unit.

BENJAMIN ELECTRIC MFG. CO., Des Plaines, Ill. ***Fluorescent and incandescent types of industrial lighting equipment.***

The latest addition to this company's line of fixtures designed to withstand humid atmospheric conditions in textile mills is the new TX-40 fluorescent lighting unit. This unit has moisture resisting, one-piece, porcelain enamel steel housing, available for either two or three 40-watt (48 in.) fluorescent lamps. Using white lamps the twin-lamp TX-40 provides about 20 to 48 foot-candles on the work in normal spacing; the triple lamp units provide 28 to 65 foot-candles. The firm is featuring its line of Vapolets being an enclosed lighting unit which is proof against corrosive fumes, vapors, smoke, dust, and moisture. The company continues its Twinlax RLM dome reflectors for use with incandescent lamps and its Stream-Flo 48 for general and local fluorescent lighting. Contributing to ease of relamping and lower maintenance cost is Benjamin's new fluorescent lamp socket branded as Springlox safety lampholder which automatically centers the contacts in the lamp socket. There is no way

in which the lamp may be removed from the socket except through a pushing movement of the hand grasping the lamp and pushing it further into the socket until the other end clears its socket. The new fluorescent lighting units, both commercial and industrial, are a part of Benjamin's 3-year program announced shortly after V-E Day.

CROUSE-HINDS CO., Syracuse, N. Y. ***Electrical products.***

The company has a line of some 25,000 different Condulets (electrical conduit fittings) and several different types of floodlights. The items most applicable to textile-mill use are the Obround Condulets, FS Condulets, vapor-tight fixtures, and fixture hangers, especially AL series flexible fixture hangers. The latter have a universal joint which permits the fixture to swing through an angle of about 20° in any direction from the perpendicular. Their use assures that a fixture will hang plumb and avoids breaking fixture stem due to strain set up accidently or by wind. The firm's Arktite plugs and receptacles have numerous textile-mill applications, as have also the switch and fuse Condulets.

GENERAL ELECTRIC CO., Schenectady, N. Y. ***Electrical equipment.***

The Thy-mo-trol unit and its adaptation to the textile industry is featured by General Electric. Load-center power distribution, including switch gear and transformers, is offered. Various other motors and controls especially designed for textile use are available in the products of this company.

THE MILLER CO., Meriden, Conn. ***Lighting equipment.***

Company is now featuring continuous wire-way fluorescent lighting systems with the Miller ceiling furring hanger creating "Ceilings Unlimited."

SYLVANIA ELECTRIC PRODUCTS, INC., Salem, Mass. ***Industrial lighting fixtures, incandescent and fluorescent lamps, special lamps, and tubing.***

A new series of industrial fixtures for fluorescent lighting features steel reflectors with Miracoat finish and comes in seven different models: HF-150s, HF-100s, HF-235s, HFF-208, HFF-104, HFF-308, and HFF-154. The line is designed for either individual or continuous-row mounting. For the latter arrangement, channel-joining strips are provided. The units carry one, two, or three lamps of wattage from 40 to 100. They are equipped with high power-factor auxiliaries. Strong, spring-like fastenings secure the reflector to its top housing. A quarter turn of the latch releases the reflector and holds it firmly when put back in place. The top housing is designed for seven mounting methods: chain suspension, with bolt or lag screws, ceiling aligner bar and rod, messenger cable-clamp, adjustable cable-clamp, chain suspension direct to fixture, and conduit mounting direct to fixture. Sylvania is also offering a new P-7 extension cord unit which may be attached to any two-prong plug outlet. The overall length of the unit is only 10¼ in. It accommodates one 6-watt white fluorescent lamp.

WESTINGHOUSE ELECTRIC CORP., Pittsburgh, Pa. ***Electrical Equipment.***

Products on display by Westinghouse include electric controls, motors, electronic equipment, and micarta for a wide variety of textile uses.

Materials Handling

Step by step, improved appliances are being offered to textile mills for transporting products about the plant, either from process to process or in or out of storage. The day is approaching when this handling will be as near 100% mechanized as possible.

THE COLSON CORP., Elyria, Ohio. ***Casters and trucks.***

Colson offers a complete line of industrial casters, supplemented by various types of wheels of cast steel with or without rubber tires, and with plain or ball bearing hubs. Colson also offers an enlarged line of hand trucks including lift-jack, drum handlers, bag-handling trucks, platform trucks, dolly trucks, shelf or tray trucks, linen hampers, rack trucks, canvas-bag trucks, shelf trucks, box trucks, garment-rack trucks, etc.

DARNELL CORP., LTD., New York. ***Industrial casters.***

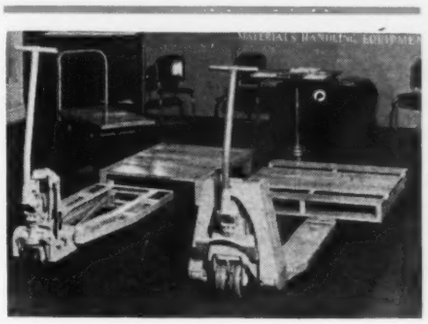
Darnell features a complete line of casters for mill use, including various materials and designs.

FIBRE SPECIALTY MFG. CO., Kennett Square, Pa. ***Stock-handling equipment.***

Improved handling equipment, including seamless roving cans, doff trucks and boxes, made of hard, vulcanized fiber are the features of this company's offerings.

HYSTER CO., Peoria, Ill. ***Lift trucks.***

This company features for textile use the 20 and the 40 lift trucks which lift, transport, unload, tier, and stack mechanically. The 20 has a 2000 lb. capacity and the 40, 4000 lb. Both are operated by an efficient 4-cylinder air-cooled gasoline motor, with transmission providing two speeds forward and reverse. The 20 has a 66-in. turning radius; the 40, 77-in. radius. These trucks are equipped with three wheels and pneumatic tires. Dual, spark-arresting, water mufflers are provided. For proper balance of loads a tilt of 3° forward or 10° backward is provided. The lift is provided hydraulically. Overall width of the 20 is 36 in., of the 40 is 42 in. (L. S. Teague equipment Co., Jacksonville 2, Fla., is southern agent.)



Trucks to handle pallets and skid platforms. (Lewis-Shepard)

LEWIS-SHEPARD PRODUCTS, INC., Watertown, Mass. ***Materials-handling equipment.***

The new line features floor trucks engineered to fit end use. The company stresses lower cost methods with power fork trucks and hand type lift trucks both for handling pallets and skid platforms. Of prime importance for textile mills are stackers for piling and unpiling unit loads or separate packages. The company's slogan is "Multiply man power."

LOUDEN MACHINERY CO., Fairfield, Iowa. ***Overhead materials-handling systems.***

Most recent developments include overhead electrified monorail system with Selectomatic control to provide automatic starting, stopping, hoisting, lowering, time delay, switch-throwing, and other functions thus saving time normally devoted to providing these controls. The system is devised to aid those mills which wish the most in mechanized processes.

MOBILIFT DIVISION OF VAUGHAN MOTOR CO., Portland, Ore. ***Southern district office at Atlanta, Ga. Fork lift trucks.***

The company features new 1946 models for handling bales of cotton, textile mill supplies, raw materials, and fabricated products. The Mobilift features maneuverability. It is rated to handle 2000 lb. There are two drive wheels, and one dual wheel for steering; all have solid rubber tires. Maximum speed forward or backward with or without load is 6 m.p.h. There are no gears to shift, which speeds up starting; and the operator stands, which gives him greater freedom of action. Truck has a 57-in. turning radius. Lift is provided by roller chain at about 45 ft. per min. Easy control of tilt is provided with a range from 3° backward to 15° forward. Truck is driven by a 2-cylinder air-cooled gasoline motor. Width of truck overall is 32".

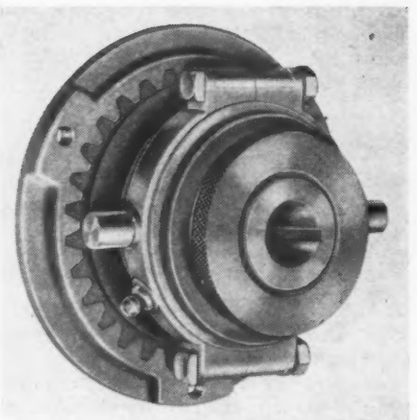
Mobilift truck, rated to handle 2000 lb., moves at 6 m.p.h.

YALE & TOWNE MFG. CO., Philadelphia, Pa. ***Materials-handling equipment and scales.***

In recognition of the need for improved methods for mechanically handling loads

and packages in textile mills, this company is featuring a wide range of equipment and supplies for unifying, hoisting, and transporting loads. Small units, such as cones or tubes, may be tiered to any height desired by placing a "pallet" between each tier. Only the size of the desired shipping package limits the number of units which can be thus "palleted" into one load.

For handling palleted loads, warps, cloth rolls, mill supplies, motors, etc., Yale & Towne has available a variety of hand and electric hoists, plain and geared trolleys, trucks, and automatic lift-trucks.



New rolling-grip friction clutch. (Dodge)

Power Transmission

Progress in power transmission makes possible a fineness and precision of speed-control unknown several years ago. Electronic devices make possible new precisions in speed changes. In general the transmission of power from source to machine has been subjected to close scientific examination, and betterments are being realized.

THE AMERICAN PULLEY CO., Philadelphia, Pa. ***Pulleys.***

This firm supplies a wide variety of pulleys, hangers, drives, hand trucks, etc. It features also for textile use the "American Tension Control" motor-base for short-center drives with either V or flat belts.

CHARLES BOND CO., Philadelphia, Pa. ***Leather specialties and belting.***

This company features the Bondaron special tanned leathers used for check-straps, harness straps, lug straps, pickers, binder straps, jack straps, and other special items particularly for looms. The company offers flat leather belts in Bondaron and Bondex, as well as in oak tannage. Bondaron solid round leather belts are also offered. The company carries in addition to its leather goods a line of flexible couplings, truck casters, gears, speed reducers, etc.

CAROLINA BELTING CO., Greenville, S. C. ***Textile mill belting.***

This firm possesses an old, home-model cotton mill which takes seed cotton fed by a hopper and by continuous process gins, cards and spins it into yarn. Of these models 1200 were made many years ago and now only five are known to exist. This continuous-process yarn mill would have been exhibited at the Southern Textile Exposition.

DODGE MFG. CORP., Mishawaka, Ind. ***Power transmission appliances.***

The newest items which the firm offers to textile mills include rolling-grip friction clutches from 1/2 hp. to 20 hp. at 100 r.p.m., and Taper-Lock V-belt sheaves and Taper-Lock bushings. This sheave mounts as a complete unit without flanges, collars, or excess weight. It has a new type of taper bushing which can be also applied to gears, sprockets, and pulleys and is suitable for a wide range of machinery applications. Also in the company's line are the Dodge-Timken hanger bearings and pillow blocks. These with other items cover a wide range of textile-mill power transmission requirements.

L. H. GILMER CO., Philadelphia, Pa. ***V-belts and other belts for the textile industry.***

Greenville Textile Supply Co., Greenville, S. C. is southern agent for Gilmer.

GRATON & KNIGHT CO., Worcester, Mass. ***Leather.***

This firm is offering a complete line of leather, particularly belting.

HOLYOKE BELTING CO., Holyoke, Mass. ***Leather belting.***

This firm is featuring a new spinning belt under the name Spinex Special.

LINK-BELT CO., Chicago, Ill. ***Chain, bearings, transmissions, couplings, etc.***

This company features its silent chain drives, "flexible as a belt, positive as a gear," for which 98.2% maintained efficiency is claimed. Link-Belt also makes roller chain drives. One of the items stressed to the textile industry is its P.I.V. speed changer. Among the recent applications are control of duration of bleaching period for wool, cloth speed on hydrosulphite ager, stretch control on high-speed slasher, variable speed for twisters, controlling pump speed on continuous-process viscose rayon yarn spinning, machine-speed adjustment for rayon pot-spinning machine, ager for developed colors on prints, operation of 2-roll starch mangle, control of staple length on cutter for acid-wet rayon, and dyeing machine drum. Link-Belt is also developing its line of worm gear speed-reducers with textile mill uses in mind.

McLEOD LEATHER & BELTING CO., Greensboro, N. C. ***Leather products.***

This company is offering a general line of mill supplies. Of particular interest is the use of leather in the textile industry and the use of magnetic separators for removing tramp iron from cleaning lines. (See Eriez Mfg. Co.)

MOFFATT BEARINGS CO., Philadelphia 30, Pa. ***Bearings.***

This firm features anti-friction ball, roller, and thrust bearings made by Timken Roller Bearing Co., Hyatt Roller Bearing Co., New Departure Ball Bearing Co., Norma-Hoffmann Ball & Roller Bearing Co., Aetna Ball & Roller Bearing Co., Torrington and Bantam Divisions of The Torrington Co., Victor Mfg. & Gasket Co., McGill Mfg. Co., Sealmaster Industrial Unit Division of Stephens-Adamson Mfg. Co., and Shafer Bearing Corp.

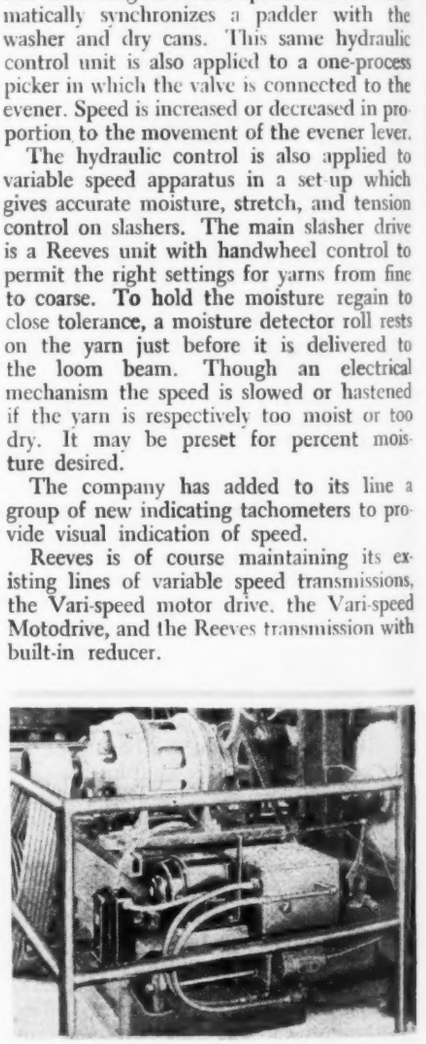
REEVES PULLEY CO., Columbus, Ind. ***Variable speed drives and controls.***

The Reeves infinitely adjustable speed control equipment is being featured in new and improved types for the synchronizing of two or more machines or ranges. The Reeves hydraulic control which can be actuated by as little as 1 oz. pressure has been applied to a four-compartment washer, driving nip rolls between compartments, and regulating cloth tension. In this application the control valve, operated by a floating roll, permits running the finest fabrics with practically no tension or pull, and heavier goods with whatever tension is desired. In this same range a similar speed control automatically synchronizes a padder with the washer and dry cans. This same hydraulic control unit is also applied to a one-process picker in which the valve is connected to the evener. Speed is increased or decreased in proportion to the movement of the evener lever.

The hydraulic control is also applied to variable speed apparatus in a set-up which gives accurate moisture, stretch, and tension control on slashers. The main slasher drive is a Reeves unit with handwheel control to permit the right settings for yarns from fine to coarse. To hold the moisture regain to close tolerance, a moisture detector roll rests on the yarn just before it is delivered to the loom beam. Though an electrical mechanism the speed is slowed or hastened if the yarn is respectively too moist or too dry. It may be preset for percent moisture desired.

The company has added to its line a group of new indicating tachometers to provide visual indication of speed.

Reeves is of course maintaining its existing lines of variable speed transmissions, the Vari-speed motor drive, the Vari-speed Motodrive, and the Reeves transmission with built-in reducer.



New highly-sensitive hydraulic automatic control applied to synchronize dry-cans with washer. (Reeves)

RELIANCE ELECTRIC & ENGINEERING CO., Cleveland, Ohio. ***Drives and controls and motors.***

The Reliance VS drive is a completely

Adjustable-speed drives are offered with either electric or electronic controls. (Reliance)

packaged, adjustable-speed machinery drive which operates from a-c circuits to provide (electrically or electronically) an operating speed range of up to 16:1. Stepless speeds are obtainable throughout the range, with rapid acceleration and deceleration at rates which may be preset. Very low speeds and jogging are available for threading and setting-up operations. Master control stations, with requisite push buttons, or individual control stations can be located wherever there is a need for them. There is no mechanical connection to the machine being driven, and only simple conduit is required between the factory-wired control units, control stations, and driving motors. The drives are available from 1 to 200 h.p. A whole range of driving motors may be synchronized at one speed, or operated with certain motors rotating at a fixed ratio of line speed. VS drives have been installed to advantage in such textile machines as continuous bleaching ranges, cloth printing machines, beamers, slashers, warpers, adjustable-speed spinning frames, and finishing ranges consisting of Sanforizers, washers, padders, tenters, and mangles.

Also of interest to the textile industry is the new Reliance Series C line of motors, in both a-c and d-c. Various enclosures are offered as well as flange and face mounted types.

J. E. RHOADS & SONS, Philadelphia, Pa. ***Leather belts and straps for textile mill use.***

The company is featuring the Tannate-Rockwood shelf-type spinning frame drive. If the load varies, the weight of the motor on the pivoted base automatically adjusts the tension. The firm continues to feature Tannate leather belts especially for modern group drive set-ups, energy-drive pulleys, 4-frame installations and pivoted motor bases. The firm claims unusual grip and flexibility and long life. It offers strapping, lace leather, belt preserver, and a treadle machine.

THE RUSSELL MFG. CO., Middletown, Conn. ***Belting and straps for textile mill use.***

Among the company's improved products are special types of twister belts.

W. O. & M. W. TALCOTT, INC., Providence, R. I. ***Belt fasteners.***

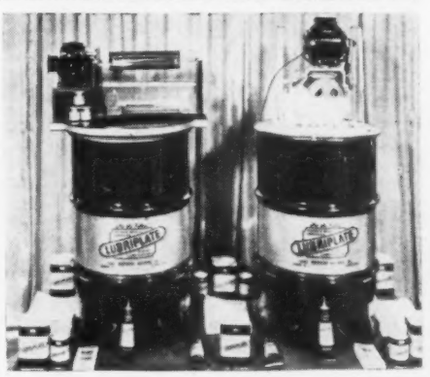
The firm offers a line of belt fasteners in a number of different styles and types including Talcott Wilson, Talcott Crown-Wilson, Talcott clinching, Talcott combination, Talcott Acme steel, Talcott Ideal, and Talcott conveyor fasteners.

Lubricants

Specialized lubricants for each of the many varied operating conditions found in the mill are coming to be generally available on the market. Oils and greases which perform correctly under widely different loads, temperatures, speeds, and moisture conditions are useful in getting the maximum efficiency out of the machine or device to which they may be applied. Lubrication systems are also available which save lubricant and preserve from soiling the textiles which may run through the machines.

FISKE BROS. REFINING CO., LUBRIPLATE DIV., Newark, N. J. ***Lubricants.***

Emphasizing the adverse lubricating conditions encountered in dyeing, bleaching, and finishing, Fiske Bros. stresses the capacity of "Lubriplate" No. 107 to perform under unusual conditions of moisture. An arrangement of ball and plain bearings, and the chain and gears driving the shafts running in the bearings, may be operated in a water bath. Lubriplate No. 8 is suitable for lubricating a single operating unit consisting of a worm gear, ring gear, slides, cams, and rollers, which operates silently.



Bearings and shafts operating under water and lubricated with Lubriplate No. 107 are demonstrated. (Fiske Bros.)

GULF OIL CORP., Pittsburgh, Pa. ***Lubricants.***

To dramatize the use of lubricants in textile mills, Gulf contrasts the efficiency of lubricating methods. Lubricated spindle vibration is detected by a cathode-ray oscillograph.

KEYSTONE LUBRICATING CO., Philadelphia, Pa. ***Lubricants.***

This company in addition to its lubricants, has available new lubricant-recommendation forms.

NEW YORK & NEW JERSEY LUBRICANT CO., New York,, N. Y.. ***Lubricants.***

A wide variety of this company's "Non-Fluid Oil" for uses in textile mills is stressed. This year the New York & New Jersey Lubricant Co. is commemorating its golden anniversary.

SHELL OIL CO., INC., New York, N. Y. ***Lubricants.***

The important lubricant characteristics of nonfoaming and preventing rust formation are among the points stressed by the Shell company. A variety of textile oils and greases is available.

SINCLAIR REFINING CO., New York, N. Y. ***Lubricants.***

Textile lubricating oils, with emphasis upon the functioning of spindle oils, top-roll lubricants, and comb-box oils, are offered.

SOCONY-VACUUM OIL CO., INC., New York, N. Y. ***Lubricants.***

Special lubricants for a variety of mill uses are featured by this company. Lubricating services, such as plant oiling surveys and lubricant recommendations, are encouraged.

STANDARD OIL CO. OF N. J., New York, N. Y. ***Lubricants.***

A variety of oils and greases for textile uses is available from this company.

STEWART-WARNER CORP., Chicago, Ill. ***Lubricants and lubricating systems.***

In addition to Alemite oils and greases, Stewart-Warner is offering several lubricating systems which include the pressure gun, the centralized, and the power operated systems; also the newly introduced Alemite midget Lubrometer system and the electrically operated Lubrikart. The Lubrikart is a compact lubricating assembly mounted on wheels for mobility. It is equipped with a power gun driven by a 1/3 hp. motor which develops 5000 lb. grease pressure, two oil pumps for filling oil cans, two hand-operated pumps for filling gear housings, etc., and various auxiliary equipment for operating these pumps.

The Lubrikart is a compact, mobile lubricating assembly. (Stewart-Warner)

THE TEXAS CO., New York, N. Y. ***Lubricants.***

Specialty lubricants for all types of textile machinery, with emphasis upon lubrication maintenance practices in mills, is highlighted.

TIDE WATER ASSOCIATED OIL CO., New York, N. Y. ***Lubricants.***

Adopting lubricants to special applications is featured by this company. Carbon residue, pour points, and specific gravity are some of the properties for which a lubricant is tested in determining its end use. A complete line of textile oils and greases is available.

TEXTILE WORLD'S Show in Print

Building Maintenance

Protective coatings which preserve walls, floors, and ceilings from the disintegrating effect of wear, chemicals, moisture, etc. are important tools in the hands of those responsible for the maintenance of textile-mill buildings. Modern chemistry has evolved many new things in recent years which offer a degree of protection previously impossible. Pre-treatment of lumber to forestall decay is another item on the list of means for extending useful building life. In presentation of maintenance items herewith are included painting-for-safety, cleaning methods, etc.

AMERICAN LUMBER & TREATING CO., Chicago, Ill. ***Wood preservation.***

In addition to Wolmanized lumber for decay-free mill and village-house construction, the company is now offering Minalith flame-proofed lumber for use in hazardous locations.

E. I. DU PONT DE NEMOURS & CO., INC., Wilmington, Del. ***Paints.***

Illustrations of the theme "Color Conditioning For Industry" have been shown by Du Pont. Many advantages in "paint-conditioning" mills are pointed out. The system of "three-dimensional seeing" is stressed for employee safety and comfort.

FINNELL SYSTEM, INC., Elkhart, Ind. ***Floor-care equipment.***

Latest developments in industrial floor-care equipment are incorporated in the machines shown by Finnell. The line includes floor scrubbers and polishers, combination scrubbing and vacuum pick-up machines, rubber squeegee water absorbers, portable sink and mop laundries, and hand-soap dispensers. Materials for use in conjunction with the machines include floor filler-sealers, preservatives, and powder and liquid cleaners.

GILMAN PAINT & VARNISH CO., Chattanooga, Tenn. ***Paints.***

Streamlining industry with color to increase production and safety is the theme of the paint, varnish, and lacquer finishes offered by Gilman.

JOHNS-MANVILLE SALES CORP., New York, N. Y. ***Building materials, insulation, and packing.***

This firm is continuing its standard lines of asbestos and related products including industrial insulations, packings, Transite pipe, and other building materials.

LIBBEY-OWENS-FORD GLASS CO., Toledo, Ohio. ***Glass.***

This company is now featuring for textile mills Blue Ridge figured and wired glass and other glass for daylighting and heat and light control in textile mills. For glare-reduction and heat-absorption, the company is stressing Aklo. For insulation, the company has Thermopane. For uses where plate glass is indicated, the company has a special tempered glass called Tuf-flex. Several of these lines are made by the Blue Ridge Glass Corp.

PITTSBURGH PLATE GLASS CO., Pittsburgh, Pa. ***Paints.***

"Color Dynamics" in industrial painting, said to be the scientific utilization of the energy in color to promote efficiency in industry, is the theme of Pittsburgh's offering to the textile industry. Increasing the effectiveness of present lighting systems by applying "double contrast" paints is stressed. The company also offers "Foamglas" insulating material, glass blocks, and paints.

REPUBLIC STEEL CORP., Cleveland, Ohio. ***Stainless steel products.***

Textile processing machinery made of its "Enduro" stainless steel is featured by this company. The equipment includes package dyeing machines, drying cans, boil-out equipment, tables, valves, reels, hosiery-boarding forms, and bleaching equipment. It is said that this steel is entirely free of pores which might carry processing material from one batch to another, thus affecting delicate color shades.

THE SELIG CO., Atlanta, Ga. ***Floor-maintenance materials and equipment.***

The importance of maintaining mill floors in a clean, smooth condition is stressed by this company. Equipment and materials are specified for a complete floor-maintenance program by their representatives after a survey of plant problems.

SHERWIN-WILLIAMS CO., Cleveland, Ohio. ***Paint.***

Three-dimensional painting as an aid to operator efficiency and increased safety is emphasized by this company. Materials for a complete plant and village painting program are available.

TAYLOR-COLQUITT CO., Spartanburg, S. C. ***Treated yellow-pine lumber.***

The company features timber conservation by preservation. It offers creosoted Southern yellow-pine poles, creosoted Southern yellow-pine lumber, and Celcure-treated Southern yellow-pine lumber.

G. H. TENNANT CO., Minneapolis, Minn. ***Floor-care equipment.***

Dry-cleaning mill floors by means of its industrial floor maintenance machine is featured by Tennant. The system is shown to renew oil-soaked floors and restore them to a bright, safe condition. The Tennant Revo-Tool offers a quick, easy way of removing travelers from floors.

The Revo-Tool attachment is being explained by Arville C. Hognander, Tennant Co.'s sales manager, to R. E. Shumway and R. W. Packard.

TRUSCON LABORATORIES, INC., Detroit, Mich. ***General line of maintenance materials in form of protective coatings for floors, walls, and roofs.***

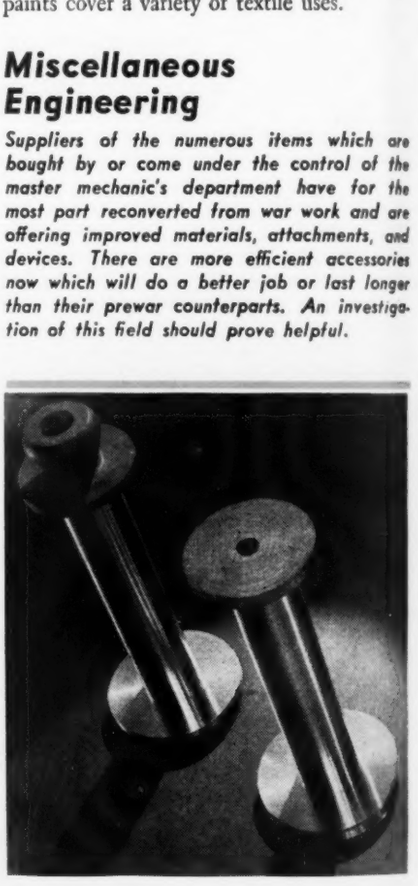
The company is stressing its Paratex rubber-base metal coating, Paratex rubber-base floor coating and Saf-T-Dek. A new feature of its line is the development of "Eye Comfort Color Harmony" for improving morale in textile mills and for relieving eye-strain. The colors are also found to result in reduced work spoilage, improved safety, and increased production.

U. S. GUTTA PERCHA PAINT CO., Providence, R. I. ***Paints***

"Barreled Sunlight" industrial paint products are featured by this company. The paints cover a variety of textile uses.

Miscellaneous Engineering

Suppliers of the numerous items which are bought by or come under the control of the master mechanic's department have for the most part reconverted from war work and are offering improved materials, attachments, and devices. There are more efficient accessories now which will do a better job or last longer than their prewar counterparts. An investigation of this field should prove helpful.



Aluminum may be used for bobbins fitted with fiber end-pieces. (Aluminum Co. of America)

ALUMINUM CO. OF AMERICA, Pittsburgh, N. Y. ***Aluminum and magnesium.***

Applications of the lighter metals, aluminum and magnesium, in the textile industry are stressed by the Aluminum Co. of America. They range from large reel warpers utilizing as much as a thousand pounds of aluminum, to bobbins and pirns weighing only a few ounces. Sheet aluminum is extensively used for housing, ducts, air cleaners, etc. Principal advantage is the resistance of aluminum to the corrosive fumes found in textile mills. Aluminum castings and tubing

find applications in card rolls, check spools, and wool processing and manufacturing equipment. Looms are also made of aluminum. Miscellaneous items utilizing aluminum include shipping tubes, package forms, print rolls, and spinning and twisting equipment. There are numerous building or architectural uses of aluminum in textile mills.

AMERICAN MAGNESIUM CORP., Pittsburgh, Pa. ***Magnesium.***

This company stresses the suitability of magnesium in textile machine construction because of its lightness and strength.

ARMSTRONG MACHINE WORKS, Three Rivers, Mich. ***Steam and air traps.***

This company specializes in a line of traps, many of which are especially applicable to textile-mill use. The company recommends modernization of dry cans with individual drainage by use of Armstrong No. 211 steam traps.

THE BASSICK CO., Bridgeport, Conn. ***Casters.***

This company is offering heavy-duty, thread-guard, and floating casters manufactured for all types of materials-conveying equipment.

BRADLEY WASHFOUNTAIN CO., Milwaukee, Wis.

Washroom fixtures including Bradley washfountains and multi-stall showers. Convenience and comfort of employees is considered in the design of these fixtures.

BUNTING BRASS & BRONZE CO., Toledo, Ohio. ***Bearings and bushings.***

The company stresses the rigidity, precision, and endurance under heavy loads of its cast bronze bearings. These are available in a full range of diameters and lengths. The company also offers precision brass bars.

CONTINENTAL-DIAMOND FIBRE CO., Newark, Del. ***Vulcanized fibers.***

This company offers its vulcanized fiber for use in trucks, boxes, barrels, and other hollow-ware used around mills. It is described as half the weight of aluminum, and lighter than wood for various uses because thinner. It is splinterproof and will neither rust nor corrode.

EDGECOMB STEEL CO., Philadelphia, Pa. ***Stainless steel.***

Edgecomb offers facilities and services in the application of stainless steel to numerous textile uses.

ELASTIC STOP NUT CORP. OF AMERICA, Union, N. J. ***Stop Nuts.***

This company's "Elastic Stop Nut" has a built-in compression collar for use particularly where vibration, shock, or impact tends to loosen nuts.

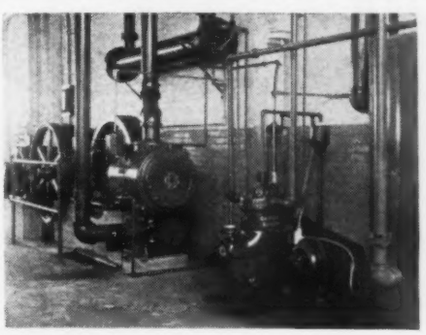
FAULTLESS CASTER CORP., Evansville, Ind. ***Casters and lock-nuts.***

A complete line of casters and lock-nuts is offered by this company. The "Faultless" casters are said to reduce cleaning costs and to give longer life because of their shock-proof and rust-proof frame.

GARDNER-DENVER CO., Quincy, Ill. Branch offices in numerous cities including Atlanta, Ga. ***Pumps and compressors.***

Among the numerous items in the line this firm stresses for textile use is its RX line of horizontal, single stage, air (or gas) compressors. The particular item in this line which meets most textile-mill requirements is the RXB which has 7 in. stroke and various cylinder diameters of which the 10-in. gives 252 cu. ft. displacement per minute.

The Class RX horizontal compressor is furnished in a range of sizes to meet various textile applications. Other products which Gardner-Denver has found to be useful for textile-mill requirements include: 5x4 in. class AAC vertical two-cylinder water-cooled compressor, 4½ x 2¼-in. class AAD vertical air cooled compressor, 3-in. type "HE" close-coupled centrifugal pump, 4-in. type "BA" side-suction centrifugal pump, 2½-in. type "B" side-suction centrifugal pump, 3-in. type "D" horizontal split-case centrifugal pump, 4½x3x4-in. type AE duplex steam pump.



Air-compressing outfit, as installed in textile mill, featuring model RX single stage, horizontal compressor. (Gardner-Denver)

INDUSTRIAL STEELS, INC., Cambridge, Mass. ***Stainless Steel Sheets, plates, bars, wire, pipe fittings, pipe tubing, hardware, and related products.***

The company is now making a special feature of its complete chemical and metallurgical advisory service on problems involving the use of stainless steel in the textile industry. It also provides prompt shipment from stock of all stainless steel requirements for construction and maintenance of dyeing, bleaching, and finishing equipment.

METALLIZING CO. OF AMERICA, Chicago, Ill. ***Metallizing equipment and accessories.***

The company finds that its new Mogul Model F metallizing unit is particularly adapted to use in textile-mill machine shops for repairing worn machine parts and for installation of protective linings to resist chemical and atmospheric corrosion. This model comes for tool-post mounting which is recommended for shaft work; model FH is recommended for manual spraying. This model sprays at the rate of 8 lb. per hr. for iron and steel at the standard gas and air pressures and can readily be raised to the rate of 14 lb. of steel per hr. The firm also supplies gas and air regulators, compressors, high-pressure sand-blast generators, etc.

New spray head for metallizing work. (Metallizing Co. of America)

MEXICO REFRACTORIES CO., Mexico, Mo. ***Refractory products.***

This company is featuring fire brick and allied products many of which have been improved during the war years. Especially the Super Mono-Fibrik and the Super Hiloset bonding mortar reflect these wartime gains. An entirely new brand of super-duty fire brick is offered under the name Jay Bee Maximul firebrick. The company continues its Mo-Rex and Aztex brands of firebrick and its Furnace Crete refractory concrete. There are also the regular lines of Hiloset bonding mortar and Mono-Fabrik plastic firebrick. Distributors for this company in the Carolinas is Piedmont Products Co.

PRESSURELUBE, INC., New York, N. Y. ***Lubricator and fire extinguisher.***

A dry-chemical fire extinguisher called the

Fire extinguisher uses dry chemicals to smother electrical or other fires. (Pressurelube)

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"All-Out" ejects a smothering flat stream that forms no toxic gases, does not conduct electricity, and can be removed with a brush. This new extinguisher is reported to operate under all climatic conditions and in the presence of winds or drafts. It somewhat resembles conventional extinguishers.

The improved Pressurelube lubricator is portable and is self-powered either by batteries or a gasoline motor. The electric model has a built-in battery charger. Pressure up to 12,000 lb. can be obtained.

THE RIDGE TOOL CO., Elyria, Ohio. *Tools.*

The wide assortment of "Rigid" pipe tools are manufactured by this company.

SARCO CO., INC., New York, N. Y. *Steam traps and building heading specialties.*

The newest item in this company's line is an on-and-off and throttling electric process control on which full details are not yet available. This is in addition to the firm's line of steam traps, including thermostatic, float-thermostatic, and inverted-bucket types. Sarco also offers hot and cold water blenders, temperature regulators with self-operated valves, bellows-packless inlet valves, pipe line strainers, etc.

SIMONDS SAW & STEEL CO., South Boston, Mass. *Tools.*

Hack saws and files made by Simonds are applicable to many uses in textile mills. The Greenville Textile Supply Co., Greenville, S. C., is Simonds representative in its territory.

★ PRODUCTION

Current offerings of textile production machinery indicate the usual year-to-year improvements and refinements. Revolutionary equipment is still some distance off. It is known that there are new developments along the lines of better machines for the major textile manufacturing processes; but the shortness of time, the scarcity of development personnel, and the difficulty in obtaining some materials made it impossible to get these machines ready in time for the Southern show this April. That situation was one of the reasons for the postponement of the show until 1948.

There are two trends in motion which should bear interesting fruit by that time. One is the refinement of existing machines to make greater speeds possible and to increase over-all efficiency. The other is toward novel and short-cut methods of reaching desired ends. Achievements in one quarter will stimulate action in other quarters and a faster tempo is likely than experienced in prewar years. The listings that follow will make interesting comparisons with similar listings at the time of the 1948 Southern Textile Exposition.

Opening, Picking, and Carding

The current interest of mill men in improved stock preparation is reflected in new developments in the opening, picking, and carding equipment. A more scientific use of air for cleaning, better means for removing tramp iron, and machine modifications for better handling of synthetic fibers are the trends in preparatory machinery.

ALDRICH MACHINE WORKS, Greenwood, S. C. *Opening and picking machinery; humidifying equipment.*

This company is stressing the need for uniform blending of synthetic fibers and is showing machinery specially designed for this purpose.

ASHWORTH BROS., INC., Fall River, Mass. *Card clothing.*

Clothing for processing nearly every type of fiber currently used by mills is available from this company. A special feature of its offering is metallic wire, including Platt's patented wire, which requires only a minimum amount of stripping and grinding. Napper clothing and lickerin wire for specific purposes are also available.

ATLANTA BRUSH CO., Atlanta, Ga. *Brushes.*

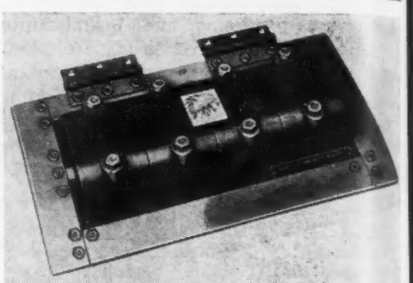
Textile brushes filled with nylon is the highlight of this company's offering. Of interest also is the featured method used by this company for repairing top flat card brushes. (See Diagraph-Bradley Stencil Machines Corp.)

ECONOMY BALER CO., Ann Arbor, Mich. *Baling presses.*

This company has a wide range of models and sizes of presses for baling raw stock, waste, trash, etc. Both downstroke and upstroke presses in hand and power models are shown.

ERIEZ MFG. CO., Erie, Pa. *Magnetic separators.*

Recognizing the need for improved methods of removing tramp iron from cleaning lines, Eriez Mfg. Co. developed



The magnetic separator is available in a number of standard sizes. (Eriez)

a non-electric, permanently magnetized separator for insertion at various points of the opening processes. The separators are made with Alnico magnetic alloy. Requiring no power for creating a magnetic field, the separators are not subject to causing or emitting sparks. A latch and hinge construction permits easy cleaning, which consists merely of removing the collected tramp metal.

HOWARD BROS. MFG. CO., Worcester, Mass. *Card clothing.*

This manufacturer is offering its "Tuffer" card clothing and clothing for nappers, lickerins, and brushes.

PRECISION GEAR & MACHINE CO., Charlotte, N. C. *Roving frame drive.*

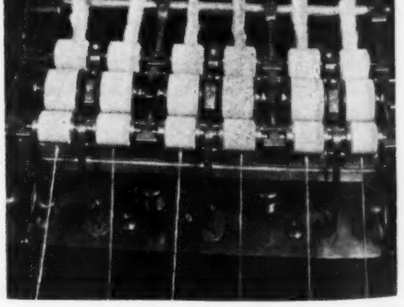
This company produces compound and chain drives particularly for roving frames. Lag and back-lash are said to be eliminated.

B. S. ROY & SON CO., Worcester, Mass. *Grinding equipment.*

This company is showing bare cylinder grinders and parts for cotton-card grinders.

SACO-LOWELL SHOPS, Boston Mass. *Yarn-production machinery.*

This company is featuring the flexibility of its cleaning, blending, carding, and drafting machinery for handling cotton and synthetic fibers. Dust and waste extractors and control of waste fiber are stressed in opening and picking machinery, and continuous stripping of cards for increasing quality and decreasing cost is emphasized. A few simple changes are said to convert preparatory



The 3-over-4 roving frame permits drafts as high as 30. (Saco-Lowell)

equipment from the processing of one fiber to the processing of another. The company continues its full line of preparatory equipment.

Of particular interest is the 3-over-4 roving frame for processing synthetic staple fibers, cut wool top, or blended fibers. The drafting unit consists of four bottom rolls and three top rolls. Because of the unusual fiber-control possible with this arrangement, drafts as high as 30 are possible. As a changeover, the system can be applied to any 8x4 or 10x5 Saco-Lowell roving frame.

SJOSTROM MACHINE CO., Lawrence, Mass. ***Feed aprons, etc.***

This firm is offering Knotwood metallic feed-aprons.

SYKES, INC., Boston, Mass. ***Wire card clothing.***

This firm not only makes all kinds of patent hardened and tempered steel-wire card clothing, but specializes in reclothing card flats and rewinding lickerins.

WHITIN MACHINE WORKS, Whitinsville, Mass. ***Yarn-production machinery.***

Recognizing the increasing need for controlled atmospheric conditions in opener and picker rooms, this company is offering a return-air condenser which removes processing dust and lint from air and returns it to the room. This makes practicable the humidifying and heating of the rooms without the loss of prohibitive amounts of heat and moisture.

Bi-coil drawing, said to reduce drawing floor space, can costs, and drawing deliveries 50% each is also featured as part of this firm's full line of machines.

Spinning and Twisting

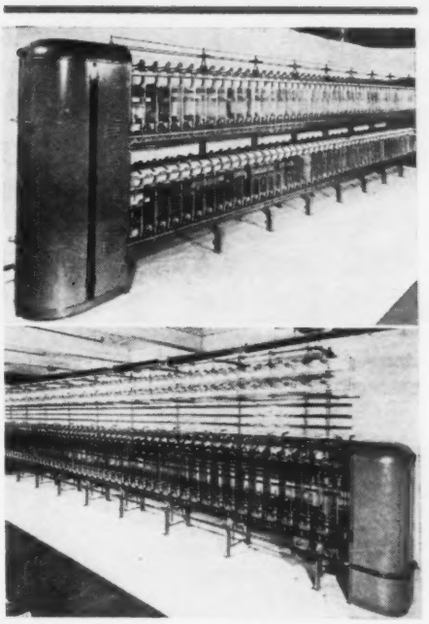
Two new twisters and a further adaptation of the Casablancas spinning system are the outstanding developments made in spinning and twisting machinery. Much attention has been given, however, to improving the two critical points of frame speed—rings and travelers. Chemical treatments and lubricating methods contribute to decreased frictional heat and, consequently, to longer life and faster operation.

ARMSTRONG CORK CO., Lancaster, Pa. ***Aprons and drafting rolls.***

A complete line of aprons, roll coverings, and loom supplies is made by this company. Roll-shop equipment may be redesigned to facilitate handling synthetic-rubber roll coverings and the company has data to facilitate this change.

ATWOOD DIV., FARREL-BIRMINGHAM CO., INC., Stonington, Conn. ***Twisters.***

The new Atwood ring twister is adaptable for silk, rayon, spun rayon, wool, worsted, cotton, nylon, or combination yarn. It is built in two models—the Model 10, with an 8-in. traverse and up to 4½-in. diameter ring; and the Model 11, with a 9-in. traverse and up to 5½-in. diameter ring. Delivery may be from cakes, cones, bobbins, or tubes. The twister package may be straight wind, tapered top, or double tapered. A wide range of twist is available. The new feed roll is rigidly mounted in a permanently fixed position on the roller beam. The feed-roll gears are enclosed in a lint-proof housing.



The Model 110 up-twister (above) is often a companion machine to Atwood's Model 10 ring twister (below).

The Atwood Model 110 up-twister is built for bobbin or headless-package up-twisting of filament rayon or other synthetic yarns on larger yarn packages. Its extra large, heavy traverse cams operate in oil, and backlash has been practically eliminated. A simple adjustment sets the traverse accurately from 3½-in. to 6-in. A wide range of twist is available, and twist can be reversed in a few seconds. Both ends of the machine are totally enclosed yet readily accessible.

The Atwood Utility up-twister is designed for handling 8- to 12-oz. packages of single-end synthetic yarns at high spindle speeds. It is suited for rayon crepes, fine denier nylons, or even silk. Spindles are mounted in a pivot swing, designed to hold the spindle against the drive belt at the proper pressure. This feature, together with rigid swing support and accurately controlled belt tension, assures uniform twist.

The new Atwood Model 200 redraw machine is designed to handle filament rayon, spun rayon, nylon, cotton, wool, silk, or combination yarns. It has a variable-speed main drive with a normal range of 150 to 350 yd. per min. It is built in only single-deck models.

A. B. CARTER, INC., Gastonia, N. C. ***Travelers and knotters.***

Boyce weavers' knotters in both belt and hand models, as well as both spinning and twister travelers, are offered by A. B. Carter, Inc.

CLOVER LEAF MFG. CO., Honesdale, Pa. ***Bobbins.***

This company through its southern agent, W. A. Kennedy Co., is offering a new type of bobbin designed primarily for winding and twisting nylon yarns.

COLUMBIA SUPPLY CO., Columbia, S. C. ***Spinning-frame drum spreader.***

The "Ezy-Apart" spinning-frame cylinder spreader, which applies hydraulic force for separating the sections of a cylinder, is offered by this company. The spreader is said to separate cylinder sections without damaging them or the shaft and to reduce machine-down time by as much as 50%.

COOK MACHINE CO., Waltham, Mass. ***Detwister.***

A detwister, automatically controlled, is being offered by this company.

THE DAYTON RUBBER MFG. CO., Greenville, S. C. ***Cots and loom supplies.***

"Dayco" roll coverings and "Thorobred" loom supplies are offered to textile mills.

H & B AMERICAN MACHINE CO., Pawtucket, R. I. ***Preparatary and spinning equipment.***

In addition to its line of rings and spindles, this company is stressing parts for its new Casablancas long-draft system. One of the features of the new drafting system is the automatic weighting assembly which applies weight to the rolls without the use of conventional weights and levers.

HOPE WEBBING CO., Providence, R. I.

Cotton tapes for use on spinning frames and twisters are featured by this manufacturer.

IDEAL MACHINE SHOPS, Bessemer City, N. C. ***Flyer and spindle finishes.***

This company is offering its RCK finish on roving-frame flyers. This finish is applied in a glossy black color to aid frame operators in seeing broken ends. Finished spindles are said to remain rust proof for a period of four years.

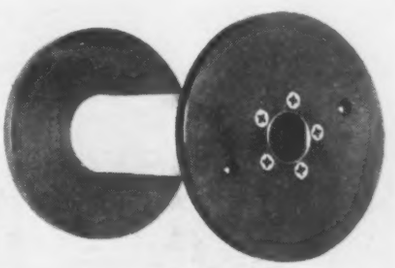
KNOX CORP., ELECTROPLATING DIV., Augusta, Ga. ***Twister rolls.***

Chrome-plated twister rolls used in processing yarns for tire-cord fabrics are available from this company.

LAMBETH ROPE CORP., New Bedford, Mass. ***Cotton rope.***

This company has available cotton rope for use as drives in a number of textile-machine applications.

A. C. LAWRENCE LEATHER CO., Pea-



Brownell twister bobbin with heads secured with Lestershire's Lascrews.

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body, Mass. ***Spinning cots and aprons.***

Calfskin aprons and "Spinna Calf" roll coverings are featured by this company.

LESTERSHIRE SPOOL & MFG. CO., Johnson City, N. Y. ***Spools and bobbins.***

Need for greater strength and wearing qualities in bobbins led Lestershire to develop an entirely new method of securing the bobbin heads. The Lestershire anchor screw (patented) is so strong that bobbin heads of ¼-in. Bakelite or ⅛-in. steel-plate-reinforced fiber cannot be forcibly pulled off without destroying the bobbin head. The Lascrews are said to require over 7000 lb. pressure to draw them.

NATIONAL RING TRAVELER CO., Pawtucket, R. I. ***Spinning and twister travelers.***

This company's complete line of ring spinning and twister travelers is offered. Emphasis is placed on its "Double Duty" and "Etartnep Finish" travelers. The Etartnep Finish, a chemical process which yields a glossy black traveler, is said to increase the traveler's resistance to friction heat.

U. S. TEXTILE MACHINE CO., Scranton, Pa. ***Twisters and roller-bearing spindles.***

A double-deck twister which conserves considerable lengthwise space is offered by this company. The twister is equipped with roller-bearing spindles which make possible higher twister speeds with less power consumption and spindle vibration.

VICTOR RING TRAVELER CO., Gastonia, N. C. ***Spinning and twister travelers.***

This company has available a complete line of spinning and twister travelers designed to meet twisting problems encountered in running various textile fibers.

One line of delivery spindles and take-up spindles is tiered above another line. (U.S.Textile)

WHITINSVILLE SPINNING RING CO., Whitinsville, Mass. ***Spinning and twister travelers.***

In addition to its line of regular spinning and twister rings, this company is featuring its patented self-lubricating ring.

Winding, Packaging, and Treating

Treating roving with a bonding resin to eliminate spinning and a number of new yarn conditioners highlight advances made in this type of equipment. Containers for packaging roving and yarn also show improvements, principally in uniformity and finish.

ABBOTT MACHINE CO., Wilton, N. H. ***Automatic coner and automatic quiller.***

The Abbott automatic filling winder for filament yarn is making its debut as a logical development from the automatic filling winder that has been so successful on spun yarns. The winder is described as "altogether automatic" and has not been on the market before.

Abbott's automatic quiller which has found wide use on spun yarn uses a hopper and an automatic feed for the bobbins in addition to travelling spindles such as are also a feature of Abbott's automatic cone and tube winder.

THE ALLENTOWN BOBBIN WORKS, INC., Allentown, Pa. ***Bobbins.***

Mock bobbins and spools for fine yarns, including some especially designed for nylon, can be made with a patented fiber-and-paper head construction, if desired. Continued trend toward larger packages has resulted in some all-fiber bobbins and others which do not use the customary rock-maple barrels. Another construction is wooden barrels with aluminum heads.

BOWEN-HUNTER BOBBIN CO., East Corinth, Vt. ***Bobbins.***

Strict uniformity and attention to finish, both inside and out, are features of card-room bobbins by Bowen-Hunter. The finish is oilproof and standard sizes are recommended for Saco-Lowell, Whitin, Whitin-Woonsocket, and H & B machines. Spinning and twister bobbins are also made.

CLOVER LEAF MFG. CO., Honesdale, Pa. ***Bobbins.***

The immense crushing power of nylon yarns has resulted in a new type of bobbin to be built by Clover Leaf. Both a stronger barrel and more secure heads have been developed.

DANA S. COURTNEY CO., Chicopee, Mass. ***Bobbins.***

Courtney specializes in automatic-loom bobbins, twister bobbins, warp bobbins, and winder cones, rolls, and tubes. Special finishes are offered to stand moisture and conditioning.

INDUSTRIAL DRYER CORP., Stamford, Conn. ***Conditioning machines.***

"H-W" conditioners are finding increasing uses for both twist setting and conditioning for regain. Each box, built of stainless steel or monel metal, is a complete unit with controls, timer, and recorder. Frames are welded steel and are covered with a Johns-Manville board made of asbestos and Portland cement.

Bobbins made with aluminum hoods. (Allentown).

KEARNEY MFG. CO., INC., Kearney, N. J. ***Conditioner and psychrometer.***

Three new models of Hygrolite yarn conditioners, termed models 4AY, 11AY, and 14AY, occupy floor space of 17x5 ft., 13x4½ ft., and 9½x3½ ft., respectively. They utilize the customary wooden apron but occupy less floor space than older models.

Kearney's textile psychrometer, a portable unit, operates from mill lighting circuits and will give moisture readings without taking samples or without long waiting periods. Accuracy is plus or minus ½ of 1%.

WALTER KIDDE & CO., Belleville, N. J. ***Winding attachments and "Fiber Bonding" machines.***

Machines for "Fiber Bonding" roving or yarns have been developed by Riverside & Dan River Mills but will be manufactured by Walter Kidde & Co. The process of treating cotton yarns greatly increases tensile strength. It consists of impregnating and curing cottons with a resinous compound which "tackwelds" the fibers and increases strength 50 to 250%. [See TEXTILE WORLD, Jan. 46, p. 146.]

The Kidde tension and density control, exclusively a Kidde product, is a precision textile-winder attachment, in two parts, which maintains uniform yarn tension and density. Tension can be accurately controlled to meet any specific requirement—as low as 3/10 gram and as high as 150 grams under suitable conditions. The attachment fits on the Universal No. 50 winder. It is especially suitable for winding raw and covered rubber. [See TEXTILE WORLD, Dec. 45, p. 141.]

SONOCO PRODUCTS CO., Hartsville, S. C. ***Yarn containers.***

This company makes a complete line of cones, tubes, winding cores, spools, and cots.

SPAULDING FIBRE CO., INC., Camden, N. J. ***Fiber receptacles.***

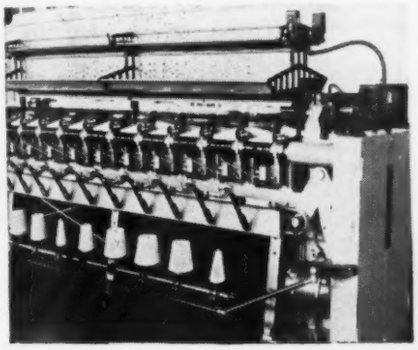
Hard vulcanized fiber and Spaudite (laminated phenolic) sheets, rods, and tubes are used in a widening variety of roving cans, boxes, trucks, poles, inserts, bobbin heads, and the like.

UNIVERSAL WINDING CO., Providence, R. I. ***Coning and filling-winding machines.***

Four groove-arrangements, a variety of take-up spindles, several tension-and-cleaning assemblies, an emulsion attachment, and a sizing device are among the items offered with the No. 44 Roto-Coner. The machine, built in 20-spindle units up to 120 spindles, can wind on a wide variety of packages including paper cones, wood cones, and different tubes.

Empty-bobbin conveyors on each side of the coner can use deflectors to permit separating two or more types of bobbins on the same side of the machine. Individual motors drive each side of the machine and permit one side only to be run or the two sides run at different speeds. Wood cones are generally run at the highest speed, 750 yd. per min. Paper cones and tubes usually are wound at 550 yd. per min., and dye packages at 325 to 520 yd. per min.

Universal's No. 99 automatic filling winder, which has featured electric controls, is being considerably improved. Details will be disclosed later.



Drive end of Universal's Roto-Coner, showing double shelf and rail guard.

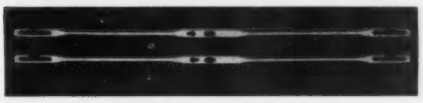
Warping and Slashing

Major developments occurring in warp-preparation equipment include a new section-beam warper and a drawing-in machine of increased capacity. These machines and various accessories exhibited reveal a continuing interest in larger packages, higher speeds, and more accurate controls. Equipment for infrared drying is said to incorporate adequate controls for drying and for protecting the fabric.

BARBER-COLMAN CO., Rockford, Ill. ***Winding, warping, entering machinery.***

A new Model SH drawing-in machine can accommodate up to 24 harnesses and 8 banks of drop wires in addition to the reed. It uses flat steel heddles. The older drawing-in machine was limited to 6 harnesses and could not handle flat steel heddles. Heddles for machine drawing have a wider section near the eye so that a "key hole" can be included. This key hole permits the accurate selection of each heddle and—by use of a punched pattern of sheet metal—any arrangement of heddles and drop wires can be drawn.

The Model SH can handle warps from a



Two positions of the key hole slot are required for the new drawing-in machine for flat steel heddles. Heddles shown are Ste-Hed-Co.

flat sheet, split sheet, one-and-one lease, or double beam. The method for drawing from double beams varies slightly from a split sheet. The one-and-one lease is required for fancy dress goods and for filament rayon.

Among controls manufactured by Barber-Colman is an improved electronic moisture-content controller as well as a size-cooking control, a size-level control, and a slasher-cylinder temperature control.

BROWN INSTRUMENT CO., Philadelphia, Pa. ***Control Instruments.***

Progress in controlling the slashing process is the feature of this company's offerings. The Moist-o-Graph, controls for size-box level and temperature, and cylinder-temperature systems form an important group. Controls for size cooking and storage and for continuous bleaching are also stressed. The time-pattern transmitter and receiver is made for exacting requirements of size-cooking schedules. The continuous balance ElectronicK indicating and recording potentiometer controller is used in connection with continuous bleach systems. The thermometer-hygrometer measures and records these factors.

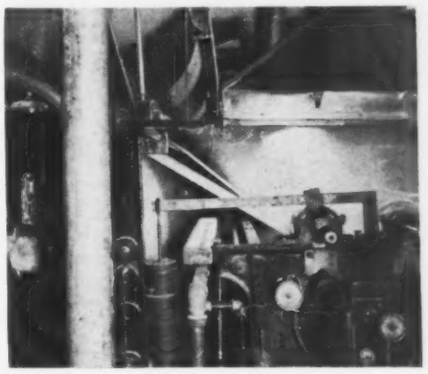
The time pattern transmitter. (Brown).

COCKER MACHINE & FOUNDRY CO., Gastonia, N. C. ***Warping and slashing machines.***

Cocker adds a new spindle-driven high-speed tricot warper to its line of preparatory machines which also includes cotton-system warpers and rayon sizing machines. The new tricot warper was designed to accommodate the ever-increasing sizes of tricot beams. The doffing mechanism is so constructed as to permit the counterweighed sectional beam to be let straight down to the floor. Chucks can then be quickly pulled out and the beam removed. The pressure roll back of the beam is automatically controlled and is moved by its own motor as tension builds up. When a new beam is put into place, touching a button brings the roll forward. Uniform speed is achieved by means of a Thy-mo-trol unit.

FRANK E. PAIGE & CO., Boston, Mass. ***Roller cloth.***

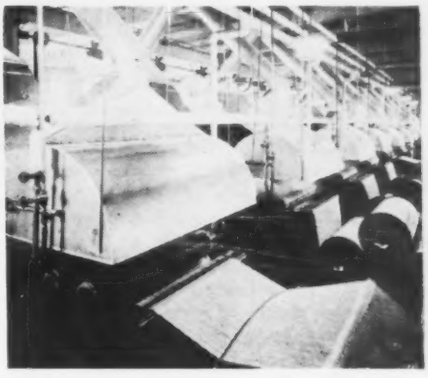
Cloths for rollers, slasher cylinders, and clearers are featured by this company.



Red-Ray burner applied to a 3-cylinder slasher operates behind the size box.

RED-RAY MFG. CO., New York, N. Y. ***Combustion equipment.***

Red-Ray infrared burners utilize air filters with replaceable units to remove all dust and lint which would otherwise tend to clog the burners. A balanced centrifugal compressor delivers air for combustion and each burner is provided with a venturi mixer which mixes the gas and air in the proper proportions at the entrance to burner manifold. The possibility of a back-flash in the compressor is thus eliminated, as there is no gas or gas-and-air mixture in the compressor. An electric valve controls the gas flow. When used with a slasher, this central valve works in direct connection with the slasher drive. When used with a



Hoods and ducts made of aluminum in the slasher room of Exposition Cotton Mills, Atlanta, Ga. *Aluminum Co. of America*

tenter frame or other drying equipment, it is customary to so connect this valve that the burners may be operated only when the other machinery is in operation.

ROBERT REINER, INC., Weehawken, N. J. ***Warping equipment.***

Reiner's BW (full width) beamer incorporates a lateral traverse motion in addition to a slow starting speed, adjustable pressure of the yarn roller, and direct drive. The warper will remain in slow speed until all creel drop-wires are lifted after which it will automatically go into high speed which can be from 100 to 1000 yd. per min.

The new Reiner SW-24 sectional beam warper, a companion to the SW-18, will accommodate tricot or other sectional beams with flanges of up to 24 in. and lengths up to 24 in. The SW-18 machine is limited to 18 in. in both dimensions but either machine can also accommodate up to four multiple spools. Both use the Reiner automatic yarn-storage device to facilitate repairing broken ends. Other Reiner warpers are the SW-42 for spools up to 42 in. long with up to 30-in. heads and the SW-84 for beams up to 84 in. long with up to 30-in. heads. The automatic storage device can be used with the SW-42 machine.

The Reiner jack creel is a recent addition to the line of creels. It is a small unit for drawing yarn overend from paper or wooden cones or spools. It is mounted on casters. Other creels are the truck creel, the heavy-duty creel, and the magazine creel. The Reiner annunciator may be applied to these creels in connection with the mercury stop motion units. The annunciator attached to the front of the creel shows at once the unit in which the break has occurred thus guiding the operator to the breakage point without loss of time.

REYNOLDS METALS CO., Louisville, Ky. ***Bobbins and beams.***

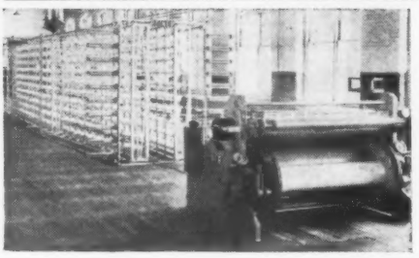
Bobbins and beams made in part or entirely of aluminum are being promoted by Reynolds along with extruded sections, hollow shapes, stampings, and castings for use in textile mills.

Weave Room and Cloth Room

Loom braces for increased steadiness at higher operating speeds and better controls for cloth shears highlight equipment in this classification. Considerable interest is also evident in improving weaving accessories, particularly for drives and power transmission. Most of the advances made indicate that machinery manufacturers are concerned primarily with the problem of reducing the shock and vibration inherent in the weaving operation.

CROMPTON & KNOWLES LOOM WORKS, Worcester, Mass. ***Looms.***

Although C&K did not plan to exhibit looms at the Greenville show, the company has been making deliveries of an improved model for filament rayon and a shuttle-mixing loom for use with yarns spun from any of the common staples. Wide looms for spun rayons and greater similarity between rayon and cotton looms seem to be two significant trends.



Full-width beamer has various useful adjustments and efficient stop signals. (Reiner)

C&K's heavy-duty loom for woolen and worsted yarns can be had with equipment for quickly changing it from a 4x1 automatic to a 4x4 non-automatic or vice-versa. A newcomer to C&K's line is the leno loom for weaving clip spots and marquisettes.

CURTIS & MARBLE MACHINE CO., Worcester, Mass. ***Cloth shear.***

A cloth shear for removing selvage and surface threads at an increased operating speed is being shown by Curtis & Marble. In addition to the built-in motor and the automatic seam protector which have been features of this machine for some time, the new CMR shear is equipped with an electric timer, instead of the former mechanical timer, and an individual overload control for the motor and cutting parts.

ROGER W. CUTLER, Boston and Greenville. ***Tapes, rolls, coverings, etc.***

Mr. Cutler is resuming his former business as a supplier of such textile mill items as spinning tapes, roller coverings, and temple rolls. He has just returned from a 5-year service in the Navy.

DANIELSON MFG. CO., Danielson, Conn. ***Sweepsticks.***

This company is offering a complete line of sweepsticks.

W. D. DODENHOFF CO., INC., Greenville, S. C. ***Textile leathers.***

This company's "champion" line includes such specialties as pickers, harness straps, shuttle checks, hold-up straps, spindle bumpers, binder leather, etc.

DRAPER CORP., Hopedale, Mass. ***Looms.***

Loom parts, accessories, and a midget loom were to have been displayed by Draper at the Greenville show, but not Draper's high-speed loom credited with speeds up to 225 picks per min. on 40-in. goods. The Draper loom for spun and filament rayon has been strengthened and improved to the extent that up to 192 picks per min. are claimed for it, based on weaving 42-in. goods. Seven models of the X series are now in the Draper line.

THE GATES RUBBER CO., Denver, Colo. ***Loom and power-transmission accessories.***

Highlighting weave-room accessories, this company is offering V-belts, hose, loom pickers, and other products.

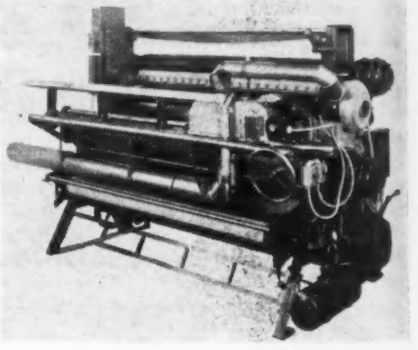
HERMAS MACHINE CO., Hawthorne, N. J. ***Shearing and sewing machines.***

The model AV Hermas shear, a radical departure from all previous machines, is of vertical design, with four knives, one directly above the other. Among the many new features incorporated in this shear are the self-lubricating arrangement for the revolving knives and ledger blades.

Cloth seams are protected by the automatic stopping of the revolving knives as seams approach. The knives are individually controlled and stop and start one at a time, so that the maximum amount of cloth is sheared. The hoods are made to insure an even suction throughout the entire length of the cutting unit and are directed at a point where the cutting takes place. Hanging threads are drawn into the knives and sheared close to the fabrics.

The new Hermas Model DC2 sewing and rolling assembly has a double take-up, roller cradle let-off, and chain-stitch sewing machine with return motion to bring the sewing head back to the starting position under its own power. The take-up on the rolling and sewing machine acts as a let-off for the shear. This machine, working in conjunction with the model AV shear, can be run by one operator.

Hermas' Model GC30 winding and measuring machine is a universal model that has been redesigned to incorporate Models GF179 and GF181 which are now obsolete. This machine is built in all standard widths.



New vertical shear with four knives, one above the other. (Hermas)

E. H. JACOBS MFG. CO., Danielson, Conn. ***Lug straps and loom accessories.***

Jacobs reinforced "Verybest" lug straps are being stressed as having more material where it will do the most good.

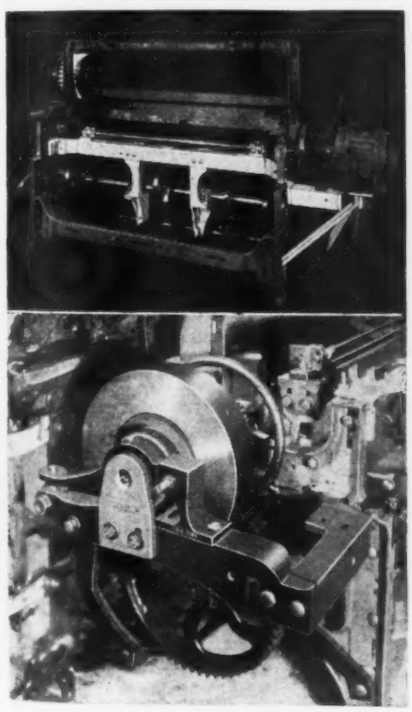
MOUNTAIN CITY FOUNDRY & MACHINE CO., Greenville, S. C. ***Loom accessories.***

The Hunt loom spreader is designed to add to stability of looms to permit greater speeds, usually 18 to 30 picks per minute

additional. A channel cast-iron beam, extending between the loom sides and acting as a rigid brace, is installed immediately underneath the crankshaft. The spreader has two vertical cast-iron "legs" which support two extra bearings for the camshaft. The installation also includes two extra bearings for the crankshaft which are affixed near each end and on top of the main spreader casting.

The Hunt flywheel energy drive replaces tight and loose pulley drives and operates through a ball-bearing clutch to give the same effect as individual motor drives.

The Hunt individual motor drive consists of a weighted balance wheel with a detachable ring gear which replaces the usual red-head gear. Cast-iron brackets installed diagonally from the motor stand and bolted directly to the loom side make the motor drive an integral part of the loom itself. The weighted balance wheel absorbs the shock of intermittent loads such as the pick and lay motions produce. The diagonal motor bracing eliminates the strain on the crankshaft and head gears which often occurs when horizontal, to-the-floor legs are used to support the motor bed.



Hunt loom spreader highlighted on a loom frame (above). Hunt flywheel energy drive replaces tight and loose pulleys (below). . . . .

STEEL HEDDLE MFG. CO., Philadelphia, Pa. ***Preparation equipment.***

A new, protected "Drawtex" tempered steel heddle is being manufactured by Ste-Hed-Co for use in a continuous-slide harness frame. The equipment is produced specifically for use with the new Barber-Colman drawing-in machine.

THE TERRELL MACHINE CO., INC., Charlotte, N. C. ***Loom accessories.***

"Denman" loom pickers, lug straps, and hold-ups are available from this company.

VEEDER-ROOT, INC., Hartford & Bristol, Conn. ***Counters.***

The Veeder-Root line of counters includes 2-3 shift pick, hank, and yardage counters; loom cut meters; and lineal measuring counters in a wide variety of models. A new "inner-locking" figure wheel is now standard on all 2-3 counters to prevent overthrowing.

WAK INDUSTRIES, Charlotte, N. C. ***Counters.***

A wide range of counters for recording lengths or revolutions are being offered by WAK.

WALKER MFG. CO., Philadelphia, Pa. ***Heddles, frames, reeds, etc.***

This company stresses the precision of its line of heddles due to uniformity in weight, size, smoothness, etc.

WATSON-WILLIAMS MFG. CO., Millbury, Mass. ***Shuttles.***

Persimmon and fiber shuttles are available from this company in addition to its regular line which includes harness frames and heddles. The company stresses shuttle eyes adapted to all newest types of looms.

Finishing Machines and Devices

In response to the growing interest in finishing, manufacturers are providing a wide range of extractors, dryers, printing machines, process controls, and fabric-control rolls. The principle of electronics and stroboscopic effect are utilized in many of the machines, while others are provided with mechanical controls. A trend toward simplifying the chemistry of finishing is also evident in the easy-operating pH indicator shown by one manufacturer.

ARLINGTON MACHINE WORKS, Arlington Heights, Mass. ***Finishing and sewing machinery.***

This firm features a combination scutcher and squeezer into which materials can be drawn directly from bins. Company also makes padding machines, winders, folding and plating machines, dye jigs, bar expanders, coating machines, etc.

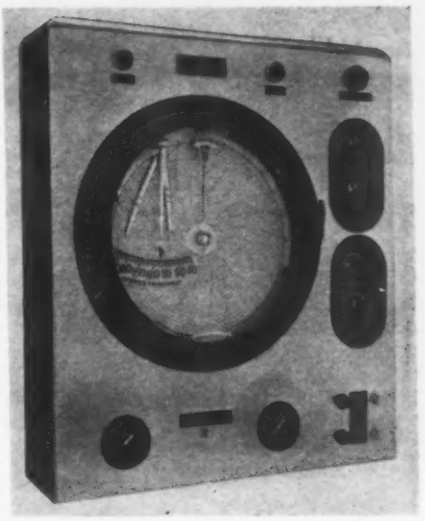
BIRCH BROTHERS, INC., Somerville, Mass. ***Pile-fabric finishing equipment.***

Equipment for finishing pile fabrics offered by Birch Brothers includes an improved curved-bar rubber expander, a new spiral roller for scutchers, a patented adjustable-slot vacuum extracting box and seals, an improved conical opener for guiding and keeping cloth open, a sewing machine for piece ends, and a yarn-assorting balance. Equipment is designed for rayon, cotton, and woolen fabrics.

S. BLICKMAN, INC., Weehawken, N. J. ***Stainless steel dyeing equipment.***

This firm is constantly enlarging its line of dye boxes, pans, rolls, tanks, dry cans, trucks, etc. for use in textile dyeing operations.

H. W. BUTTERWORTH & SONS, CO., Philadelphia, Pa. ***Finishing machines.***



The Cyclelog provides complete control by easy knob adjustments. (Foxboro)

Butterworth has been busy with the production of two improved continuous-bleaching machines. In general, the trend is toward more and more production either through greater speed or new design, such as a compartment-type horizontal washer which does the work formerly requiring five units of the conventional design.

Butterworth's line includes printing machines capable of up to 14 colors, automatic tenters with speeds up to 200 yd. per min., a variety of agers, calenders, calender rolls, drying machines with cylinders up to 150 in. wide and using Johnson joints, padders, cloth winder, Sanforizers, cloth guiders, etc.

THE FOXBORO CO., Foxboro, Mass. ***Recording, controlling, and indicating instruments.***

This company is featuring its new Cyclelog for controlling the rate of temperature rise, elapsed time, and cycle ending in batch processing. Another highlight is the electronic Dynalog recorder for temperature measurement and multipoint temperature scanning.

HYDRAXTOR CO., Chicago, Ill. ***Extractor.***

An extractor which operates on the principle of squeezing water from textile materials by applying hydraulic pressure is provided by this company. Its Southern distributor is Morris Speizman Co., Inc., Charlotte, N. C.

THE JOHNSON CORP., Three Rivers, Mich. ***Finishing-plant equipment.***

The Johnson rotary pressure joint and a syphon pipe are claimed to be superior to conventional methods of draining dry cans, slasher cylinders, Sanforizers, and other such equipment. The joint utilizes a graphite ring and requires no packing nor lubrication. Its ball-and-socket construction enables it to absorb lateral as well as angular misalignment without loss of efficiency.

The Johnson high-temperature boiler-feed system, instead of fighting against boiler pressure, admits this boiler pressure behind the pump during operating cycles.

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MACBETH CORP., New York, N. Y. ***Control equipment.***

This company is offering its new line-operated, continuous-indicating pH meter and its standard color-matching skylights for the control of color in dye houses. The pH meter is designed for simple operation so that workmen and assistant technicians can operate it as accurately and effectively as chemists. Only one control, in addition to the electrode switch, is used; and pH values are directly indicated on the scale in 0.1 units over the full range of zero to 14 pH. No batteries are used, and the indicator can be left on continuously.

Indication of direct pH value is made on the dial.

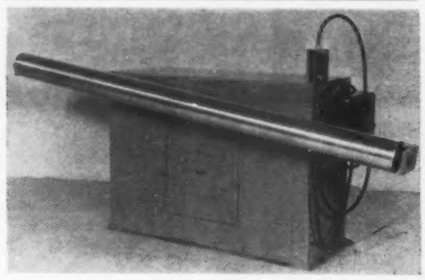
MOUNT HOPE MACHINERY CO., Taunton, Mass. ***Cloth-handling devices.***

The patented Mount Hope tilting-roll weft straightener uses push-button control for manual operation or General Electric's "Electric Eye" for automatic control. For use with manual operation, Mount Hope has developed a stroboscopic source of illumination to make the cloth appear to the operator to be moving slowly or even stopped, so that the cloth can be straightended even when runing at high speed.

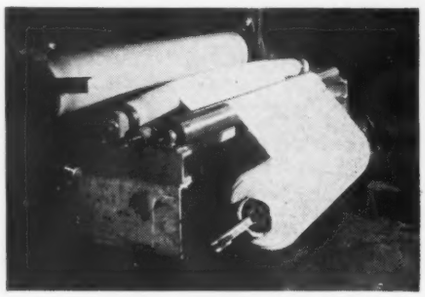
The main element of the patented weft straightener is a tilting roll, the angular position of which is adjusted by means of a push button and small motor inside the housing to lengthen the path of the selvage which is ahead, and at the same time shorten the path of the one that is behind.

The improved Mount Hope swing guider and opener maintains the principle of operation of its predecessor and has only two moving parts: a pair of revolving nip rollers and a swinging frame. The guider can be adjusted while in operation by merely turning a wing nut at the top of the balance-spring support.

The new Mount Hope "free-wheeling" expander is ball-bearing mounted and is meant to produce maximum-width cloth with minimum tension by moving the cloth over a curved roll. (A special expander is used for rolling up rayon or cotton tire cord.) When maximum sidewise stretch is desired, up to nine expanders in three sets of three each can be used on fabric as light as marquisette, because the rolls turn so freely.



A small motor inside the case adjusts this Mount Hope tilting-roll weft straightener. Stroboscopic light can be used with it to help keep cloth straight.



The Mount Hope free-wheeling expander can be used individually or in groups to keep cloth at full width without creases.

The Mount Hope continuous roll feed and open-width tension device are recommended for use together for eliminating stoppage of machines while new rolls of cloth are being sewn on.

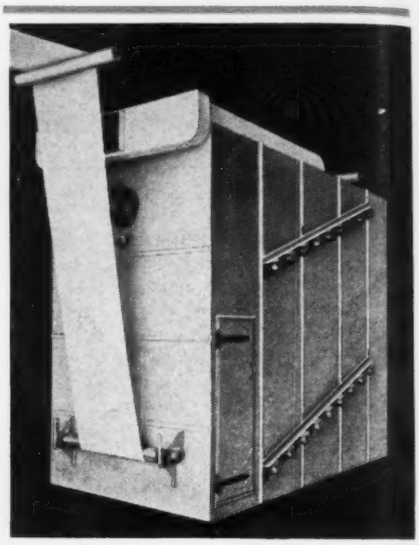
PARKS & WOOLSON MACHINE CO., Springfield, Vt. ***Cloth shear and semi-decating machine.***

A thread-clipping machine suitable for wool, cotton, rayon, or blended fabrics is made by this company. Available also is its semi-decating machine for use in finishing woven and knit goods made of synthetic yarns.

PROCTOR & SCHWARTZ, INC., Philadelphia, Pa. ***Finishing equipment.***

The Proctor roller-curer is a small machine designed to do heat curing or drying where output requirements are moderate and is a recent addition to the Proctor line of textile equipment. It differs from Proctor's loop curer in size and in that driven rollers are used top and bottom (in the loop curer and dryer there is only one line of conveyed rollers on top). The speed of the rolls in the roller dryer is controlled by a patented direct motor drive in such a way that there is compensation for cloth shrinkage. Both the roller-type and the loop-type machines utilize a directed, downward air flow on the fabric.

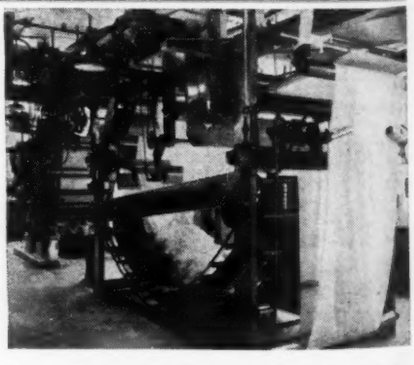
Another recent addition to Proctor's line of drying equipment is the housing for a single-run tenter. In it, air at high temperature is impinged on both sides of the fabric as it is being tentered. Proctor builds the drying unit, not the tenter proper.



The Proctor roller-type dryer utilizes two lines of rolls (note bearings on side of machine) for drying or curing fabrics. Modifications are required to adapt the equipment to drying or curing, whichever is desired.

RICE BARTON CORP., Worcester, Mass. ***Textile roller printing machines.***

The new member of this firm's line of printing machines is the recently designed high-precision and high speed rotary printing machine, which may be used with the conventional back gray arrangement, or with the new blanket washer equipment which saves in floor space and maintenance. On the new model when high speed work is required, such as 250 to 300 yd. per min., special attachments are available to keep the machine in non-stop operation and to control the cloth as it enters the printing zone. An accumulating conveyor permits storage of several hundred yards of goods so that the operator will have sufficient time to sew on another roll of cloth. There is a similar accumulating conveyor for the backing gray. Antifriction bearings have been used on all rotating parts; their use on the mandrels which carry the printing rollers has made possible many of the improved operating characteristics. When equipped with the blanket washer, the need for the back gray is obviated and 25 ft. 9½ in. is saved in



New high-speed printing machine, showing accumulating conveyor. (Rice-Barton)

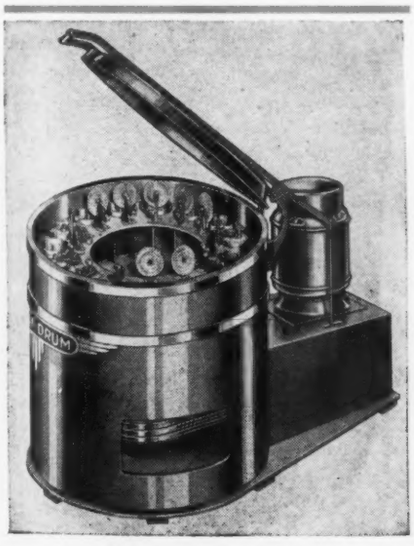
the over-all length of the range, the length coming down to 33 ft. 10 in. The special blanket requires no drying as an inclined doctor blade removes the water.

This new Rice-Barton machine will be built for 2, 6, 8, 10, 12, and 14 colors. The blanket washer is built in two sizes, for printing machines up to 50-in. face and up to 60-in. face.

SMITH-DRUM & CO., Philadelphia. ***Dyeing and finishing machinery.***

Among this company's new products is the Smith-Drum package extractor and dryer. In this machine, each package is extracted individually, which method prevents distortion or flattening of package and crushing of dye tubes. The complete cycle including loading and unloading is about 2 min., with actual running time of 70 sec., with extraction to 42% of moisture. Capacity is 350 to 450 packages per hour. It is equipped for push-button operation and has an automatic timer in the electric circuit. Basket speed is 890 r.p.m. Floor space is 42½x65½ in.

The Smith-Drum dryer will turn out a batch of yarn in less than 3 hr. time. It dries both from the inside out and the outside in at the same time. The carrier is fitted with spindles which hold six packages in rigid tubes or eight wound on Franklin springs. In total about 1000 lb. of yarn is accommodated. Heated air is not only forced through the packages but also circulated around them.



New Smith-Drum package extractor which handles packages separately and avoids crushing or distortion.

TAYLOR INSTRUMENT COS., Rochester, N. Y. ***Indicators and controls.***

This company is steadily working on improvement of performance, time-saving features, etc., of its temperature, pressure, humidity, flow, and liquid-level instruments. In particular it has two systems in preparation especially for the textile industry which it is said, will not be available for another few months.

Heavy-duty, Suprex extractor. (Tolhurst)

TOLHURST CENTRIFUGALS DIVISION OF AMERICAN MACHINE & METALS, INC., East Moline, Ill. ***Centrifugals.***

The newest item in the line of Tolhurst extractors for textile-mill use is a 48-in. heavy-duty, Suprex extractor with basket in which all surfaces coming into contact with the product are of stainless steel. It is said that this Suprex model is the first of its kind to be operated at the high speed of 1,000 r.p.m. The machine includes an automatic braking cycle in connection with the time. It is described as stable and unusually rugged. The 48-in. center slung textile extractor is one of the series incorporating that exclusively Tolhurst suspension principle. It is available also in 40, 60, 72, and 96-in. sizes. The braking cycle is automatic from start to completion of the cycle. One model in 40-in. and 48-in. sizes has been especially designed for use by hosiery mills.

Textile Chemicals

Probably the first important benefits the textile industry will realize from wartime research will be in chemicals. Already products uncovered by chemical research during the war are reaching the suppliers' market, particularly in the form of finishes. Other products of significance offered include detergents, wetting agents, oil softeners, and agents for various resistant treatments.

AMERICAN CYANAMID & CHEMICAL CORP., New York, N. Y. ***Chemicals.***

Cyanamid's broad line of textile chemicals includes softening agents, sizes, and wetting agents as well as water-repellent compounds and many chemicals.

ARNOLD, HOFFMAN & CO., INC., Providence, R. I. ***Textile chemicals.***

This company features its line of textile chemicals under the Ahco brand, including softeners, assistants, etc.

DOW CHEMICAL CO., Midland, Mich. ***Chemicals and metals.***

This company offers numerous basic chemicals and plastics which have important roles in the textile industry, also germicides and fungicides. It is stressing magnesium for manufacture of warp beams. This metal is described as the lightest of all structural metals and its textile use saves power, cuts maintenance, increases speed, it is said.

HERCULES POWER CO., Wilmington, Del. ***Pine Oil.***

The importance of pine oil in the textile industry is being emphasized by Hercules Power Co., since the scarcity of this oil is expected to be alleviated shortly. Pine oil can be used in many operations on virtually all types of fibers and fabrics.

E. F. HOUGHTON & CO., Philadelphia, Pa. ***Processing products.***

Continued development has resulted in new and improved products such as surface-active agents, synthetic detergents, textile finishes, nylon size, and rayon oils.

INTERNATIONAL SALT CO., Scranton, Pa. ***Salt dissolver.***

Extremely high clarity of brine made from rock salt by the Lixate dissolver is demonstrated by apparatus for transmitting light through great depths of brine. The Lixate process reputedly saves 10 to 20% in the amount of salt needed and operates with no labor or power cost for mixing brine.

MATHIESON ALKALI WORKS, New York. ***Steamer for open-width processing and textile chemicals.***

Mathieson is featuring as usual its caustic soda for mercerizing, kier-boiling, and scouring; also sodium bicarbonate, chlorine, and Textone. The last named is a sodium-chlorite product used for bleaching all types of goods.

This company has developed a steamer for continuous open-width processing of goods. The process prepares fabrics for any of the conventional bleaching processes, thus eliminating kier or jig scouring.

MONSANTO CHEMICAL CO., Boston, Mass. ***Chemicals and finishes.***

Syton, a new inorganic textile finish, and Resloom, a melamine resin, are being featured by Monsanto. Both are relatively new entrants in the field of textile chemicals and finishes.

Syton W-20 is a fine colloidal dispersion of silica used to produce anti-slip, snag-resistant textiles with a permanently delustered appearance.

Resloom NC-50 is recommended for use to reduce shrinkage of fabrics (including knit), to influence the hand, to decrease water pick-up, and to weight fabrics. Drying and curing can be carried out in one or two operations. Penetrating agents can be used to put the material into fibers instead of on them.

MYLES SALT CO., LTD., Charlotte, N. C. ***Brine producer.***

The Myles combination brine dissolver and double filter is built of stainless steel and includes meters for measuring the brine. The salt itself acts as a filter before the brine passes through a secondary filter and settling chamber. The operation of the machine is automatic, and a supply of brine in a storage tank is kept at a predetermined level.

OAKITE PRODUCTS, INC., New York 6, N. Y. ***Textile chemicals.***

Detergent, cleaning, de-scaling, and rust-removing materials for a variety of mill uses are offered by this company. Of special interest are its products for cleaning and controlling the formation of scale and slime in air-conditioning and humidifying systems.

TEXTILE WORLD'S Show in Print

Other products are intended for use in wet finishing operations, kier boiling of cotton, wool scouring, degreasing rayon, and other similar purposes.

Sizings

The new conditions in the textile industry—synthetic fibers, air conditioning, infrared drying, larger packages, and ever-increasing speeds—require that more and more attention be given warp sizing. Uniformity of the size formula and selection of the best ingredients for a specific purpose must be given more consideration. Sizes exhibited cover a range of special uses which indicate a broad recognition of the new needs of the industry.

ANHEUSER-BUSCH, INC., St. Louis, Mo. ***Starches and dextrines.***

A variety of starches and related dextrines are produced for many textile uses.

CLINTON CO., Clinton, Iowa. ***Starches.***

This company stresses the quality and service of its complete line of starches for all textile purposes.

CORN PRODUCTS REFINING CO., New York, N. Y. ***Starches, gums, dextrines.***

Starch-base products have been developed especially for fine yarns and for spun rayons. A textile laboratory is maintained in Greenville, S. C., for working out the special problems of individual mills.

KEEVER STARCH CO., Columbus, O. ***Starch.***

Keever's starch, described as "the weaver's friend," is sold as Victor mill starch.

NATIONAL STARCH PRODUCTS, INC., New York, N. Y. ***Starches, gums, dextrines.***

Starches and other materials for textile sizing, printing, and finishing are made up for a wide variety of purposes.

PABST SALES CO., Chicago, Ill. ***Desizing material.***

Exsize, widely used as a desizing material, is the principal textile item produced by Pabst.

PENICK & FORD, LTD., Cedar Rapids, Iowa. ***Starches, gums, dextrines.***

In addition to its nationally known syrups and sugars, Penick & Ford supply starches, gums, and dextrines especially for thread sizing and for cloth finishing. The company maintains a Southern textile research and service laboratory.

SEYDELL-WOOLEY & CO., Atlanta, Ga. ***Sizings and chemicals.***

"Sey Co" sizing, said to produce a tough, elastic, pliable film, is available from this company.

Other textile chemicals featured include penetrants, dressings, softeners, and alkalis. The company also has a twist-setting machine to condition lively filling with a penetrant.

A. E. STALEY MFG. CO., Decatur, Ill. ***Starch.***

Corn starches in various modifications and with a range of possible fluidities are offered by Staley.

STEIN, HALL & CO., New York, N. Y. ***Starches, gums, dextrines.***

Since 1866, this company has manufactured and distributed starches, gums, and dextrines used in processing and finishing textiles. Additions are modified or specially prepared products for use on spun rayons.

Testing

Important new developments in testing have resulted from rigid government fabric specifications. New tests and equipment for making them are now available. They undoubtedly will prove of benefit to mills which may find it desirable to manufacture new fabrics and new constructions utilizing fibers new to them.

ATLAS ELECTRIC DEVICES CO., Chicago, Ill. ***Testing machines.***

The Atlas Fade-Ometer and Weather-Ometer both utilize the enclosed violet carbon arc which has been correlated with sunlight readings. A companion testing machine is the Launder-Ometer.

LEWYT CORP., Brooklyn, N. Y. ***Pick Counter.***

An electronic pick counter is reported to count the picks in a sample of cloth in 40 sec. The Lewyt counter utilizes a tiny beam of light less than 1/1000th of an inch wide, directed on the cloth to be counted. The intermittent intensity of the light as it passes over the threads sets up electronic impulses on the electric eye, and these impulses are amplified to energize a magnetic counter.

An electronic device which counts the picks and ends of a sample fabric in 40 sec. (Lewyt)

SCOTT TESTERS, INC., Providence, R. I. ***Testing Machines.***

Two outstanding Scott testing machines being built are the double-headed twist counter and the constant-rate-of-load pendulum-type tester. The twist counter can be used to determine the twist of singles or plied yarns—as in a cord—or as a conventional tester. The new pendulum tester utilizes an electronic drive developed in conjunction with General Electric engineers and described in the March, 1945, issue of TEXTILE WORLD.

Scott's line of recording inclined plane testers are finding many new uses in addition to determining the characteristic curve of a yarn, its strength, and elongation. One use is as a friction tester.

★ ACCESSORIES

Progress has been made in office machines, shipping containers, labels, weighing devices, sewing machines, etc. The electric typewriter is typical of the advances in these varied fields, all of which bear watching by those who want to be abreast of their competition.

ADDRESSOGRAPH - MULTIGRAPH CORP., Cleveland, Ohio. ***Office machines.***

Latest models of the addressograph and the multigraph machines are now available.

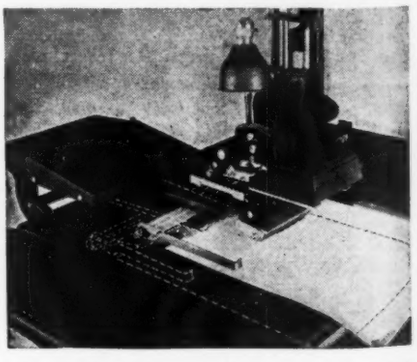
THE AMERICAN CRAYON CO., Sandusky, Ohio. ***Stock markers.***

Crayons and chalks, developed for use on the various textile fibers and processing packages, are featured by the manufacturer of "Old Faithful American Markers." A floor finish is also made by this company which is said to seal the wood and provide a durable finish. It is sold under the tradename "Kaysan."

AMERICAN MONORAIL CO., Cleveland, Ohio. ***Traveling cleaners.***

This firm features its automatic cleaners

(Continued on page 248)



Class 1900 Addressograph is similar to a desk and operates at a speed of 100 impressions per minute.

WHEN TO USE RAYON—
A Difficult Cotton-Mill Decision

HIGHLIGHTS: *Technological progress has been responsible for most of rayon's success—Cotton for many uses is higher priced than rayon—Fibers compete on basis of price, quality, and style—Rayon's limitations make it unsuitable for many fabrics.*

By MAURICE R. COOPER, HOWARD G. PORTER, and ROBERT B. EVANS
U. S. Department of Agriculture

An accurate knowledge of when to use rayon instead of, or in conjunction with, cotton has become a prime necessity for mills equipped with cotton-system machinery. There are times when the combination of two basic factors—price and fiber properties—dictate the use of one or the other of the fibers, or a blend of the two.

Some aspects of this problem are discussed in this condensation of "Synthetic Fibers in Relation to American Cotton," by Maurice R. Cooper and Horace G. Porter, and "Survey of Development and Use of Rayon and Other Synthetic Fibers," by Robert B. Evans. The latter report begins at "Basis of Competition."—EDITOR.

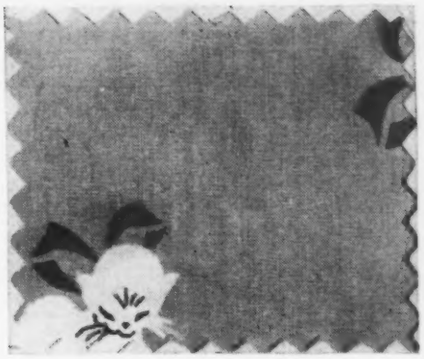


Fig. 1. The greatest advances in the use of rayon in the future are expected to occur in the spun-rayon field. A sample of a light-weight dress print made of 1.0-den. viscose spun rayon is shown here.

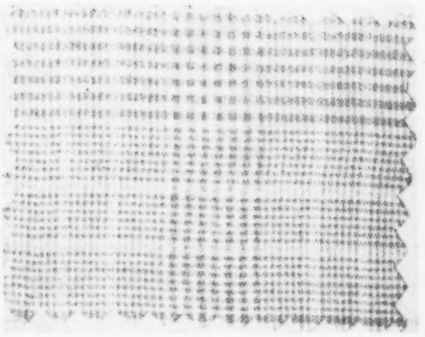


Fig. 2. Shirting for sports wear and women's dress-wear fabric are two of the principal uses of spun rayon.

TECHNOLOGICAL DEVELOPMENTS and the accompanying quality improvements have undoubtedly been by far the most important group of factors accounting for the tremendous increase in rayon production during the last 25 years. One of the most far reaching of these developments has been in the reduction in the size of the individual rayon filaments comprising the continuous-filament rayon yarns. Decreases in the size of the individual filaments in a yarn of a specified size give added strength, pliability, covering power, mildness of luster, and softness of feel. Delustering methods and greater uniformity in the yarns also contributed to an expansion in market outlets for rayon.

So far as the last two decades are concerned, the development of rayon staple fiber is probably the most important of all developments in rayon processing. Although originally intended primarily as a wool substitute, rayon staple fiber has made its greatest advancement in this country as a material for the cotton-spinning industry.

The wide adaptability of staple fiber has been an important factor contributing to its phenomenal growth. Its versatility and adaptability for various uses, either separately or in blending with other fibers, have permitted the development of a much larger variety of fabrics, style effects, and designs.

PRICE OF RAYON. A downward trend in rayon prices, which has been closely associated with the technological improvements in rayon production and increased manufacturing efficiencies, has contributed much to the rapid increases in rayon consumption and to the utilization of rayon for an increasing number of uses. The price of 150-den. rayon filament yarn, as a percentage of the price of 40s single carded-cotton yarn, declined from 523% in 1921 to 168% in 1938 and to 107% in 1943.

For many purposes rayon filament yarn is chosen, at least by the ultimate consumer, more for appearance than for any other reason. Consequently, a combed, mercerized, and gassed yarn of approximately equal size (such as 70/2) would be more nearly equivalent to 150-den. rayon yarn in consumer appeal; and for purposes other than for use as yarn, cotton yarns of even higher quality are required to equal rayon yarn in consumer appeal.

In recent months the price for "base-grade" combed 70/2 cotton yarn when gassed and mercerized was $1.33 per lb. This price compares with prices of 55¢ for 150-den. viscose-rayon yarns of less than 60 filaments and 57¢ for the same size and types of yarns with 60 and more filaments, both with the standard number of turns per inch. For some uses the rayon yarn might need to be given some additional twist when being used instead of 70/2 cotton yarn with a standard number of turns per inch. This additional twist would increase the price of rayon yarn, but would still leave rayon with an important price advantage in comparison with cotton yarn.

Domestic prices of rayon staple fiber have also declined considerably since it was introduced on a sizeable scale about 1928. Considering differences in spinning waste, the costs of Middling $\frac{1}{8}$-in. cotton on a net-weight basis delivered to the spinning mill as of October, November, and December, 1944, are about the same as the costs of standard viscose-rayon staple fiber on a comparable basis. During the first four years after staple rayon's introduction (1928-31), this grade of cotton averaged only about one-fourth of the cost of staple fiber. Furthermore, during the intervening period there have been improvements in the quality of rayon staple fiber while Middling $\frac{1}{8}$-in. cotton is about the same quality today as in the earlier years.

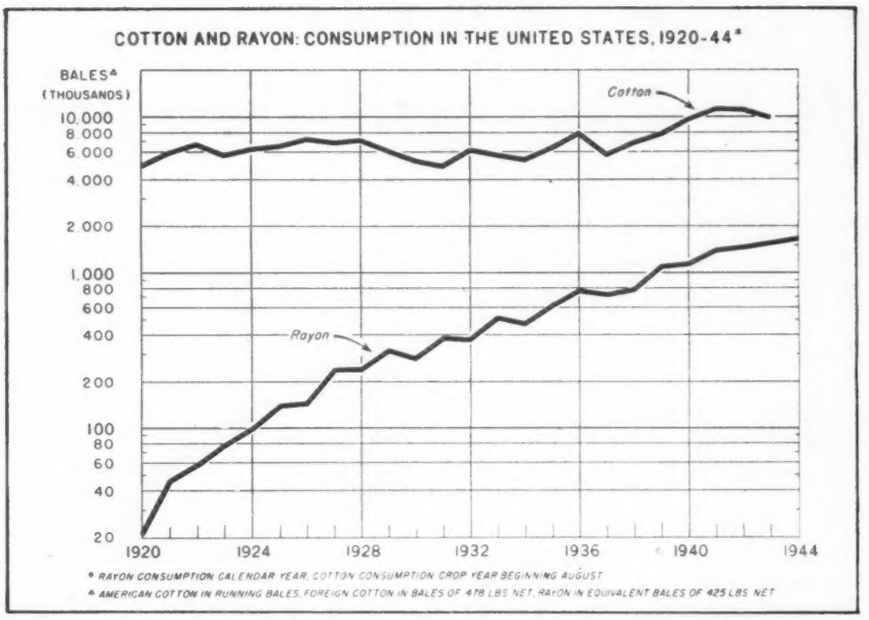


Fig. 3. The consumption of cotton in the United States increased about 65% between 1920 and 1940. The consumption of rayon increased about 5900%.

COMPARATIVE NET COST. For many uses rayon staple fiber is spun into yarns of such fineness, uniformity, and luster that it competes more directly with cotton of higher grades and longer staples than Middling $\frac{15}{16}$-in. Consequently, for such uses cotton is higher relative to staple fiber than indicated above, since there are substantial price premiums on the better qualities of cotton and since rayon staple fiber is the same price per pound irrespective of staple length.

For example, the net cost to the spinning mill for Strict Middling $1\frac{1}{16}$-in. cotton per pound of usable fiber—after allowing for tare and manufacturing waste and based on October, 1944, price quotation—was somewhat higher than the net cost of rayon staple fiber on a comparable basis. Strict Middling $1\frac{1}{16}$-in. cotton for use in combed yarns was from 35 to 40% higher than rayon staple fiber.

Other significant differences are the greater stability of rayon staple-fiber prices and the complete uniformity in the quality of the synthetic fiber. These two factors combine to reduce the operating risk due to changes in the inventory values of the raw material and the expenses involved in securing uniform qualities of raw material when operating on staple fiber as compared with cotton. In using raw cotton, the manufacturer usually finds it necessary to employ highly trained specialists for the explicit purpose of classing and purchasing raw cotton and maintaining proper hedging operations against price changes, whereas little expense of this nature is necessary in the procuring and using of rayon staple fiber.

Comparative Prices of Rayon and Cotton

Year	Actual price per lb.		Equivalent price per lb. usable fiber	
	Rayon filament yarn (Dollars)	Cotton yarn (Cents)	Rayon Staple (Cents)	Cotton (Cents)
1920	2.92	40		
1921	2.79	53		
1922	2.80	64		
1923	2.42	63		
1924	2.05	56		
1925	2.02	54		
1926	1.52	47		
1927	1.50	51	63.00	
1928	1.40	51	63.00	22.87
1929	1.14	49	63.00	19.81
1930	.84	39	63.00	12.57
1931	.72	29	54.60	7.89
1932	.58	29	42.00	8.94
1933	.63	47	38.85	13.50
1934	.57	42	35.70	15.50
1935	.57	40	34.65	14.82
1936	.60	42	29.40	16.40
1937	.57	34	26.25	11.65
1938	.51	30	26.25	11.34
1939	.53	35	26.25	12.66
1940	.53	39	26.25	13.71
1941	.55	50	26.25	22.33
1942	.55	52	26.25	24.55
1943	.55	52	25.20	25.07
1944	.55	55	26.25	26.10

Fig. 4. Rayon filament yarn used for comparison is 150-den. viscose, cotton yarn is 40s carded, rayon staple fiber is 1½-den. viscose, and cotton is 15/16-in. Middling.

BASIS OF COMPETITION. Fundamentally, rayon competes with other fibers on the basis of (1) relative price, (2) quality, and (3) style, though various important supplementary factors also have influenced its acceptance. Relative price, as a factor in competition, is most influential in connection with finished products; but it is not possible to obtain a single representative price to cover the many different forms in which the products of a textile fiber are sold at retail. However, with textiles manufactured by similar processes, relative prices of the raw fibers or of the yarns made from them usually offer a satisfactory measure of this factor.

During the period from 1930 to 1943, the production and consumption of continuous-filament rayon increased more than fourfold. One outstanding feature of this increase in the use of filament rayon is that it occurred mostly in the woven-goods branch of the industry; that is, the tremendous increase since 1930—more than 300 million pounds—is almost entirely accounted for by its expanded use in woven goods.

In contrast, consumption of rayon yarn in knit goods in the same period increased only 51 million pounds, of which 33 million pounds represented a wartime increase since 1940 in hosiery. Many people close to the textile field, however, believe that rayon's greatest expansion in the future will come about through expansion in the use of staple fiber.

Little use has yet been made of staple fiber in knit goods, except small quantities for such purposes as women's knit outerwear and underwear, men's hose, and women's knit gloves. Staple fiber comprises only a small percentage of

the total fiber used for these purposes, and less than 3% of the staple fiber consumed is used for knitting.

WOVEN GOODS. By far the most important use at present for staple fiber is in woven goods, both alone and in mixture with one of the natural fibers such as cotton or wool. Because it can be produced in any desired length, staple fiber can be converted into yarn on all types of cotton- and wool-spinning machinery. Most of it, however, is processed on cotton machinery.

Novel and attractive effects in clothing and household articles have been obtained by mixing staple fiber with cotton, wool, flax, and other fibers. The cross-dye effects resulting from such mixtures, especially those with wool, are particularly attractive. Many new fabrics have been developed in this manner, and these have been responsible in a large measure for the success that staple fiber has had in the woven-goods field.

Woven fabrics made of staple fiber have found their principal use thus far in women's and men's outerwear. One group of fabrics is made of staple fiber mixed with wool to simulate woolen and worsted types such as flannels, tweeds, and twills, for use in men's and women's suits and in men's slacks. In such applications, staple fiber may serve to lower the cost of the final product or to extend supplies of wool, if extension is needed. Another group of fabrics in which staple fiber is used—including poplins, gabardines, and failles, either all rayon or mixed with cotton—is used widely in slack suits and sport shirts. Staple fiber also finds a large market in women's dress goods, such as linen-like and challis-like fabrics and washable shantungs.

In non-apparel uses, staple fiber is used to a considerable extent in tablecloths, napkins, draperies, upholstering fabrics, etc. It also has had increased use since the beginning of the war in wool mixtures for blankets and carpets.

HOSIERY. Price, style, and serviceability are competitive factors that vary greatly in importance in determining relative quantities of the various textile fibers used in different types of hosiery. For example, in women's hosiery, appearance outweighs a considerable difference in price; and beyond a certain required minimum, serviceability without satisfactory appearance is of little importance. In men's hosiery, price, appearance, and durability are of more nearly equal importance; while in children's hose, durability and price are of more importance than in either men's or women's hosiery.

Half-hose, principally men's, accounted for most of the rayon used in hosiery prior to World War II; but there had been only small increases in the use of rayon for this purpose after 1929. Cotton was the fiber most affected by competition of rayon in this use, but it staged a comeback after 1929. Production of all-cotton hosiery for men and children increased from 42% of the total in 1929 to 55% in 1939. This increase was due in considerable part to the popularization of sport hosiery made primarily of cotton, such as slack and crew socks and anklets.

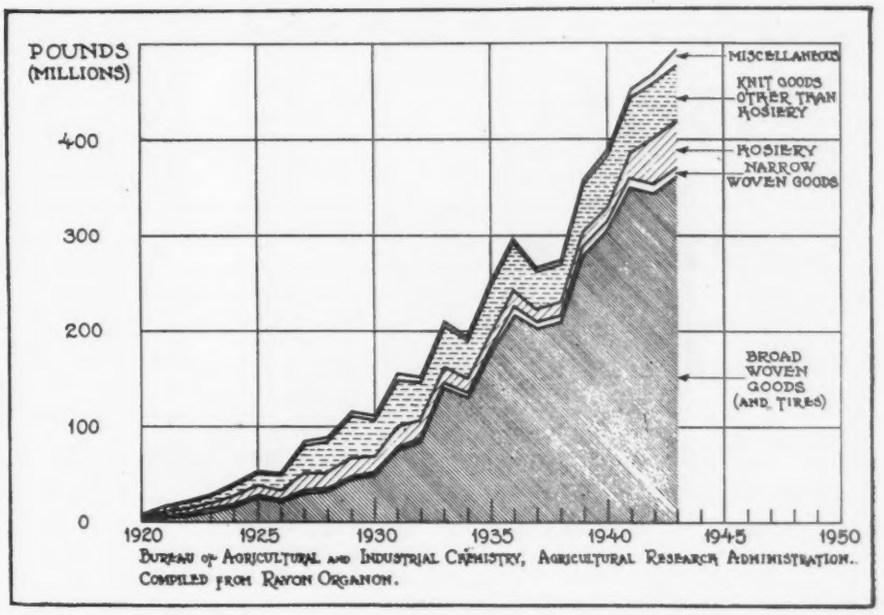


Fig. 5. The distribution in the United States of domestic continuous-filament rayon by trades from 1920 to 1943.

No published figures are available showing the relative consumption of the various textile fibers in knit goods other than hosiery, such as knit underwear and outerwear. Cotton is by far the most important fiber used in these goods as a group, but rayon and wool are important competitors.

Whether rayon will permanently displace cotton in tires is a matter of vital importance to cotton growers and processors, since tires have constituted the largest single use of cotton, requiring an average of approximately 600,000 bales per year during the years 1935-39. No definite answer can be given to this question because several highly uncertain factors are involved. Much will depend on the relative prices of cotton and rayon fabrics and whether the difference is sufficient to outweigh any technical advantage of one over the other in any or all types of tires.

Approximate Cost per Tire

Size tire	Cotton fabric	Rayon fabric
6.00x16	$1.44	$1.65
7.50x20	4.56	5.25
10.00x20	9.87	11.28

Fig. 6. The approximate cost per tire of using cotton and rayon fabrics in three sizes of tires, based on 1944 prices.

WHEN TO USE COTTON. There are still certain classes of textiles for which rayon, with its present properties and its present price, is not so well suited as other fibers. Owing to certain of its properties, there is an actual but not sharply defined limit to the extent to which rayon in its present stage of development can displace cotton and wool. Rayon is a man-made fiber, and its various properties have by no means been permanently fixed. Nevertheless, some of its present limitations can be pointed out. For example, the following classes of textiles are predominantly cotton:

Bags. One of the most important single uses of cotton in the United States is for various types of bags. In some peacetime years, nearly 500,000 bales go into the manufacture of bags.

Work clothing. Another large and highly important use of cotton is for work clothing, consisting principally of various kinds of overalls, work shirts, and work pants. In 1939, some 500,000 bales of medium- and short-staple cotton went into the manufacture of men's, youths', and boys' garments of these

(Continued on page 204)

SHUTTLELESS LOOM Developed in Britain

HIGHLIGHTS: *Picks are inserted between top and bottom lines of warp by filling-guiding device—Loom's chief application seen in making fabrics not suitable for weaving on mass production lines.*

A SHUTTLELESS LOOM, in which the filling is inserted into a normal shed by a positively driven guide made of brass with a poreclain eye, has been developed in Britain.

The new loom, which is likely to find its principal application in making fabrics not suitable for weaving on mass production lines, is the invention of C. H. Baddeley of Bradford, England.

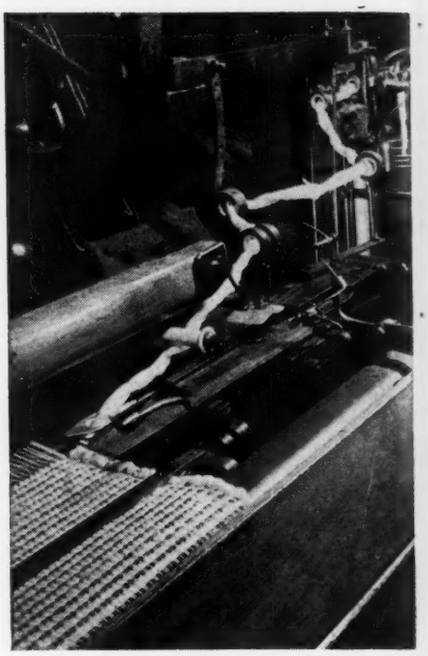
On the new shuttleless loom, the filling is laid into position between the warp threads in such a way that no temples are required. Only enough tension is placed on the filling to see that it is in a straight line, ready to be beaten-up to the fell of the cloth.

Two picks are placed in each shed. A separate supply of filling, with a separate guide, can be used at each side of the loom. By this arrangement, the two yarns may be the same or different. A novel filling-fork arrangement is fixed at each side of the machine, so that weaving without one of the filling threads is prevented.

The British publication *Textile Mercury and Argus* mentions the use of the loom to produce a fabric of practically carpet thickness at a speed of 40 double picks per minute. The filling at one side of the machine was being supplied from cones and at the other side from an untwisted sliver direct from the card. Fringe edges are possible.

An ordinary dobby can be used. The shedding may be operated by cams, dobbies, or jacquards to permit weaving a design. If desired, a warp stop motion can be applied.

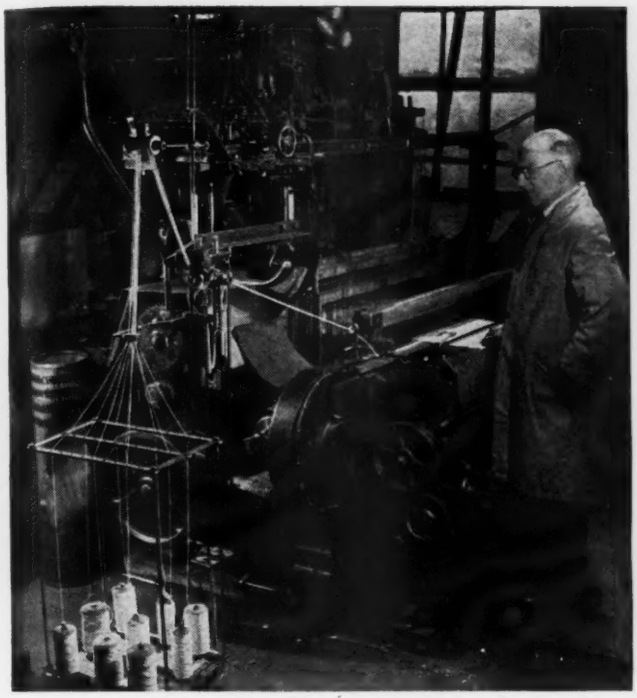
The shuttleless loom has utilized cotton, wool, asbestos, jute, seaweed, paper, and glass filling varying from fine counts to actual card sliver, as already indicated.



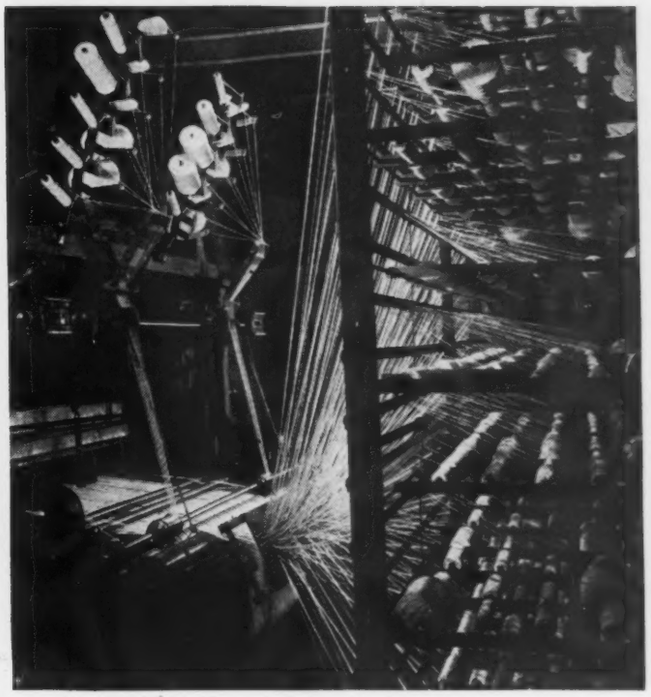
A patent arrangement is used for twisting the sliver and feeding it in a straight line when it is used as filling. The filling is shown being laid by a guide made of brass with a porcelain eye. Only enough tension is placed on the filling to see that it is in a straight line, ready to be beaten-up to the fell of the cloth. Two picks are placed in each shed.

C. H. Baddeley of Bradford, England, inventor of the shuttleless loom, is shown in business suit talking to his mill engineer, C. Bloodworth, who assisted in the development of the machine.

The lower right hand sample of shuttleless-loom weaving is duck fabric. One type of duck, it is claimed, can be woven 26 in. wide with 100 warp threads and 120 picks per inch. The loom has what is described as a negative take-up motion which permits fabrics of a great weight per square yard to be woven. Good selvage can be noted in the duck fabric. The sample on the upper left is a heavy-texture cloth woven from sisal. In it can be seen the double picks which characterize cloth from this particular shuttleless loom.



A view of the shuttleless loom, showing multiple filling being fed into the machine. Different counts, colors, and materials can be used to produce a variety of designs. Note dobby head.



Warp also is fed into the loom on a patented principle, which allows a wide range of colors and designs. A creel (such as is sometimes used for tire fabric) replaces the more conventional loom beam.

The machine is practically silent. It does not need to be lagged to the floor and lends itself to "upstairs" installation. It is suitable for home weaving.

The machine has run for eight hours continuously without attention in producing cotton duck and canvas. If suitable warp is used, it is a simple matter to place a sufficient filling supply for a continuous run of 24 hr. The inventor considers a weaver and one assistant as capable of running 24 machines, but other observers have expressed the belief that two such workers could take care of many more. Owing to its simple principles of operation, the shuttleless loom is held to be highly suitable for the employment of partly disabled ex-servicemen or women. There is no picking motion in the generally accepted sense. The machine has no picker sticks or conventional checking mechanisms. There is no banging-off and, of-course, no such thing as a flying shuttle.

AATCC Men Describe NEW TESTING MACHINES

HIGHLIGHTS: *Picks are inserted between top and bottom lines of warp by filling-guiding device—Loom's chief application seen in making fabrics out —Color-matching lamp should give a band spectrum through clear glass*

FOUR IMPORTANT textile tests and equipment for making them were described by members of the American Association of Textile Chemists & Colorists at a meeting of the New York section of the association in New York, Feb. 15. Abstracts of three of the papers are presented here. The fourth paper, "The Continuous Indicating pH Meter—Line Operated," presented by Frank Paully, Macbeth Corp., forms the basis of a description of the Macbeth pH meter appearing elsewhere in this issue.

Fig. 1. Scorched test strips are being examined by Walter Stump. Chart in background shows effect of chlorine on fabric strength.

Chlorine-Retention Test

By WALTER STUMP
Crown Tested Dept., American Viscose Corp.

THE TEST we use for determining the effects of chlorine on rayon fabrics is

(Continued on page 244)

MAKES *Haste* PROCESSING WASTE

SUNOTEX PROCESSING-AID . . .

Speeds-Up the Processing of Nylon Waste

A famous mill had considerable trouble in processing nylon waste. They were using another processing-product, but the stock dried out, and they were hampered by static.

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Much better results have been obtained with Sunotex. In fact, it has made possible steady, satisfactory processing. The yarn is uniform and without odor . . . static conditions have been completely eliminated . . . and quality has been maintained.

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WORSTED YARNS Effectively Spun on COTTON FRAMES

HIGHLIGHTS: *Use of long-draft cotton machinery requires oil-combed tops weighing 50 gr. per yard—Better fiber control makes higher drafts possible—End breakages greatly reduced.*

By FRANCOIS A. CLEYN
Spinners, Ltd.

THE METHOD OF SPINNING worsted yarns on long-draft cotton machinery has advanced sufficiently to warrant serious consideration.

The author's experience with worsted yarns produced in this manner leads him to the conclusion that they are stronger and more even than the average Bradford or French-spun yarns. When used in a single filling cloth, the appearance is improved and burling costs considerably reduced.

Belief that this method of spinning worsted yarns will develop considerably, with the United States leading the way, impels the writer to suggest that it be labelled the "American System."

In employing long-draft cotton machinery for spinning worsted yarns, oil-combed tops weighing 50 grs. per yard are used. Since tops are not obtainable commercially at this weight, one gilling or reducing operation is necessary before drawing.

The comparative drawing lay-out for producing 300 lb. per hour shown in Table I is predicated on the assumption that an additional operation will be

(*Continued on page 206*)

TABLE I. COMPARATIVE DRAWING LAY-OUT

AMERICAN SYSTEM, for Production 300 Lb. per hour

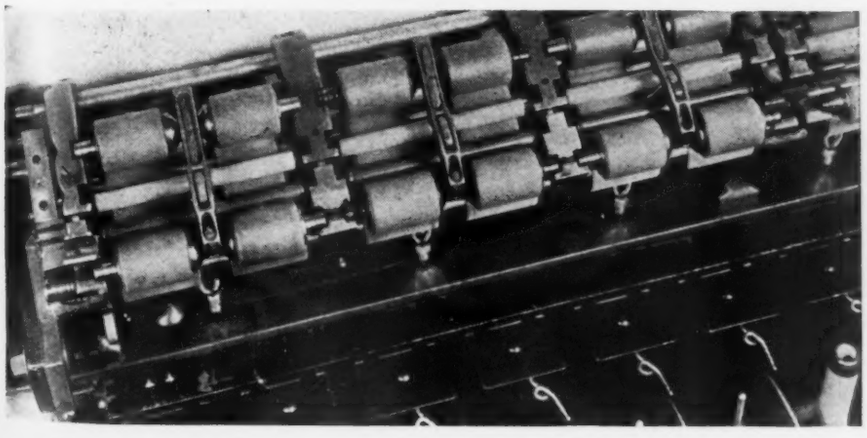
No. of Machines	No. of Operators	Doublings	Draft	Wt. per yd.	Sp. Rpm
(1) 6-head (4 deliveries each) Intermediate Drawing Frame.	1	5	5	50 gr.	
(1) 6-head (4 deliveries each) Finisher Drawing Frame.	1	5	5	50 gr.	
(12) 72-Spindle, 8 x 4, Superdraft Roving Frames.	6	1	15.96	2.67 hk. 1/4s worsted count.	700
Total	8				

BRADFORD SYSTEM, for Production 300 Lb. per hour

No. of Machines	No. of Operators	Doublings	Draft	Wt. per Yd.	Sp. Rpm
(2) 14/9 Gill Boxes	1	5	5.6	225 gr.	
(2) 14/9 6-Spindle Boxes	1	4	5.8	155 gr.	
(2) 14/7 8-Spindle Boxes	1	4	5.8	107 gr.	
(2) 12/6 12-Spindle Boxes	1	4	5.8	74 gr.	
(2) 10/5 36-Spindle Boxes	1	2	6.5	23 gr.	
(18) 8/4 36-Spindle Rovers	6	1	7.4	3.13 gr. 1/4s worsted count.	2100
Total	11				

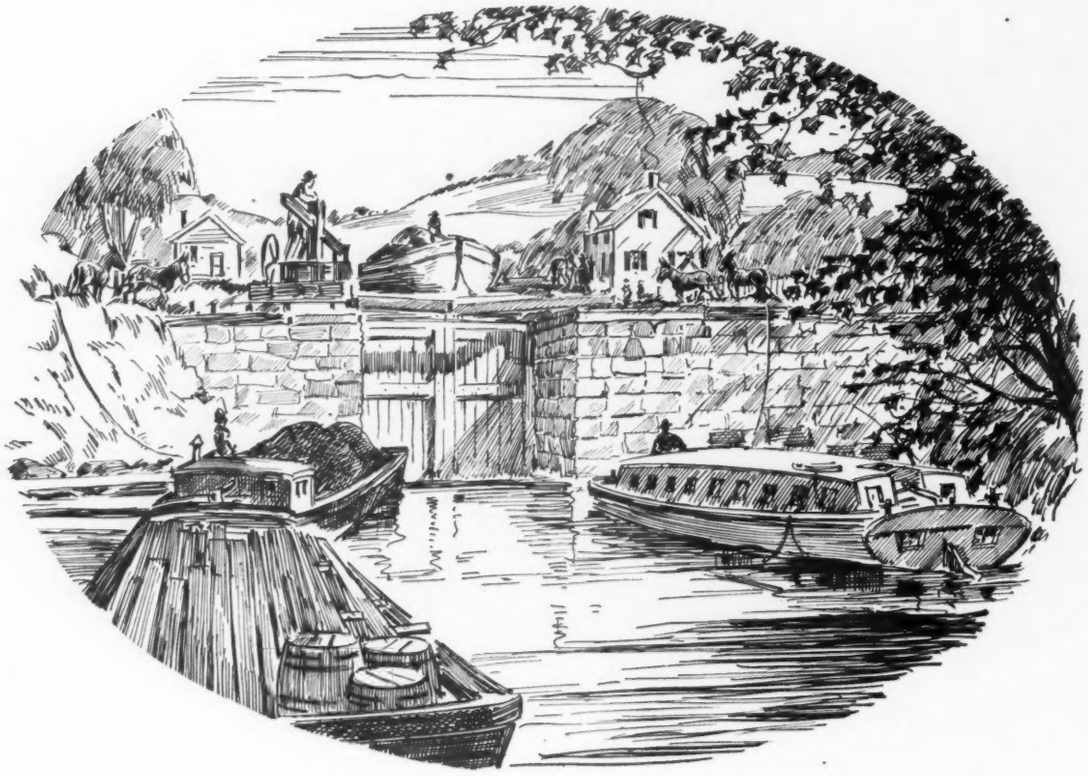
TABLE II. COMPARISON OF LABOR REQUIREMENTS

	No. of Spindles	Roving Used	Doublings	*Production 267 lb. per hr. of a 1/24s worsted count*						
				Draft	Ring	Number of Workers				Rpm
						Spinners	Doffers	Creel Tenders	Bobbin Boys	
American System	4032	1/4s worsted count.	2	12	2½	3	2	1	2	7000
Bradford System	4704	1/4s worsted count.	1	6	3	10	2	1	2	6000



New Spinning Frame Runs Cotton or Worsted

Saco-Lowell's Z-system spinning offers unusual possibilities for spinning worsted, cotton, or short- or long-staple synthetic fibers. The system consists of three lines of bottom rolls, the back and middle rolls being 1 in. in diameter and the front roll being 1⅜ in., and four top rolls. The front and back top rolls are usually 15/16 in. in diameter, and the two control rolls usually are about ⅝ in. in diameter. An apron runs over the two back rolls to increase the over-all control of fibers. Fibers of lengths ranging from 1⅛ in. to 3 in. are being run successfully. Drafts ordinarily vary from 17½ to 22. The Z system can be applied as a changeover on existing spinning.



—back in 1820: When the Erie Canal was being built and the population of the United States was less than ten million—nine years before Turkey red was used in dyeing—John Butterworth established this business in Philadelphia to serve the Textile Industry.

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Butterworth Service includes a complete line of Machinery for bleaching, mercerizing, dyeing, drying, printing and finishing fabrics and warps; calenders for cotton and rayon fabrics; spinning machinery for rayon filament yarns.

Butterworth Research keeps informed on the new developments in Textiles and Textile-finishing. Butterworth Engineering strives to interpret each new development in terms of Machine Design and Plant Arrangement. Write us.

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HOSIERY SIZE and FITTING
Standards Utilize New Device

HIGHLIGHTS: *New Universal Hosiery Fitting Measure (UHFM for short) devices are key to comprehensive size classification system—Wearing length and width sizes covering 95% of women's leg sizes to govern knitting specifications and nylon pre-boarding—Present full-fashioned leg-size practice may give up to 80% misfits.*

By WARREN P. SEEM
Research Engineer, U. S. Testing Co., Inc.

Table I—Proposed Basic Standards
Six Length and Three Width Sizes

CLASS	Leg Length, inches—Wearing Sizes	Foot Length—Wearing Sizes
A—Small	22-23-24-25-26-27	8-8½-9-9½-10
B—Normal	24-25-26-27-28-29	8½-9-9½-10-10½
C—Large	25-26-27-28-29-30	9-9½-10-10½-11

Table II—Proposed UHFM
Three length and three width sizes

CLASS	Leg Length, inches* Wearing Sizes	Foot Length—Wearing Sizes
A—Small	22 to 24 Average 23	8-8½-9-9½-10
B—Normal	24 to 26 Average 25	8½-9-9½-10-10½
C—Large	26 to 28 Average 27	9-9½-10-10½-11

** Boarded length based as 4 inches longer than wearing length.*

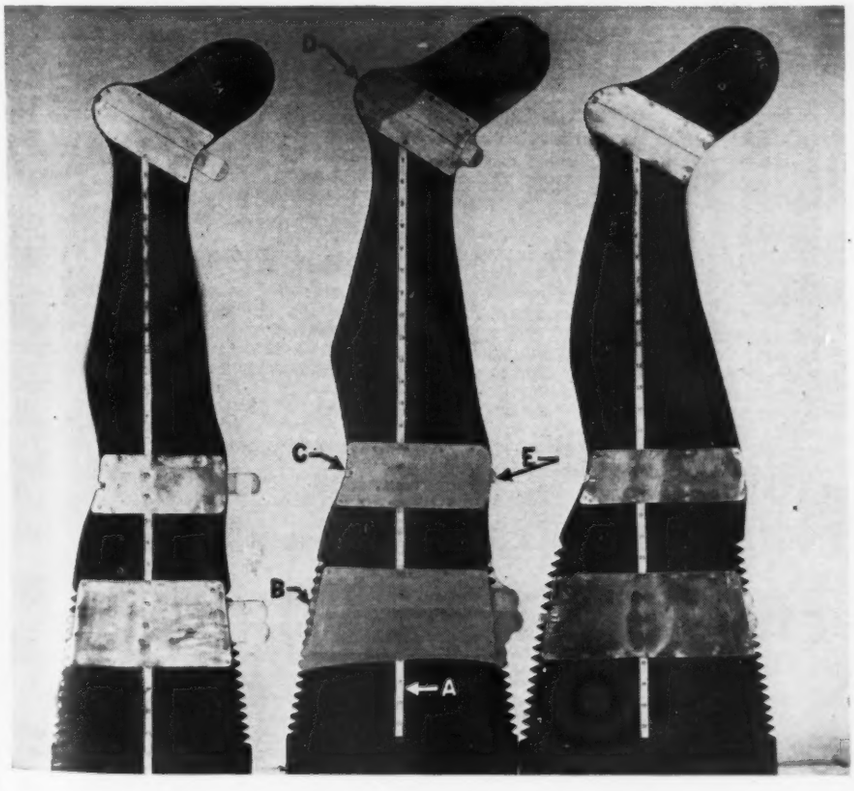


Fig. 1 *Fig. 2* *Fig. 3*

NEWLY-DEVELOPED Universal Hosiery Fitting Measure (UHFM) devices, designed to put hosiery knitting specifications and nylon pre-boarding on a wearing instead of a boarding length basis and to afford accurate testing for stretch and recoverability, constitute the cardinal features of a comprehensive size classification system now being perfected.

The United States Testing Co., which developed the UHFM and complementary tables by which frequency distribution for wearing length and width sizes covering 95% of women's leg sizes can be gaged, is continuing its research along a broad front. The goal is not only to replace the finger and thumb rule in the production of proportioned hosiery but also in respect to buying habits and merchandising.

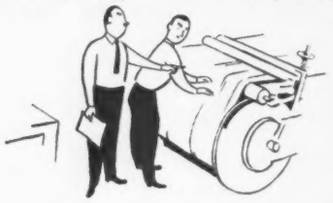
Behind this hosiery development is the hard, cold fact that at present about 95% of the knitters produce only one length and one width size of hosiery. About 3% produce three lengths and one width; and about 2%, three lengths and three width sizes. The one length, 29 in., and one width girth, 19½ in., used by 95% of full-fashioned knitters shows maximum possible misfits of 80.40% (see table VIII).

First step toward including more accuracy into size scales has been to reclassify the proportional length terms—short, medium, and long—to specific inch whole number sizes under the headings, A-small, B-normal, and C-long.

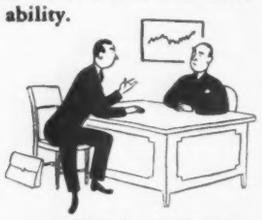
The aim as far as production is concerned is to put knitting specifications on a stable wearing-length basis instead of the unstable boarded-length and to have dimensions of nylon pre-boarding forms correlated on a wearing basis.

The UHFM consists of three forms comprising three width wearing area levels and three length sizes. When a stocking is mounted on the UHFM, it stretches in the welt about 40% from the machined size to the wearing size, in the instep and knee about 25% and in the length about 16%. The plus stretch and recoverability is tentatively set at 10%. This stretching gives stability to the loop and produces a uniform hosiery fabric on a wearing basis

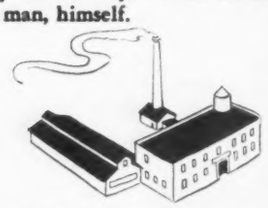
(AN ACTUAL CASE FROM THE FILES OF MEINHARD, GREEFF & CO., INC.)



In 1941 a Superintendent of a worsted mill . . . young, aggressive, intelligent . . . decided to open his own mill. His assets: $5,000 (a down payment on 12 second-hand looms) ambition, integrity, ability.



He came to Meinhard, Greeff . . . laid his cards on the table. We couldn't finance his tangible assets (there practically weren't any) . . . so we financed the man, himself.



In 1945, after doing $1,000,000 worth of business, he owned a modern worsted mill building, 24 automatic looms, a complete dyeing and finishing plant, substantial capital.

Just one of many instances of Meinhard's intimate and constructive work with its clients . . . based on common-sense . . . not ironclad dictum.

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or on the ultimate basis by which good fit is proven. The boarding size is subject to variables in humidity, yarn size, sizing, types of yarn, density of cones, machine setting, and tensioning.

The proposed length and width sizes cover about 95% of women's leg sizes and come under the classification of "conventional." Others are called "in" and "out" sizes, including the extreme short, long, small, and large. Determination of how many leg and foot sizes were required to guarantee good fitting was based on the results of a survey of 10,000 actual leg measurements made as part of a WPA home-economics project.

A set of proposed basic standards (Table I) has been worked out in addition to the proposed UHFM standards (Table II). The basic standards, though not for immediate use, were developed as a means by which to evaluate all fitting methods and to guide develop- of pre-boarding forms for nylons and other thermoplastic hosiery.

To determine the relative number of misfits caused by differently proportioned length and width groupings, two frequency-distribution tables are used. One is the Tibiale or knee height and the other is Midway thigh girth.

Tables III, IV, and V are given on boarded sizes which were found by adding 12 ins. to the Tibiale height. The boarded length is used, as it is the total length standard used in knitting specifications, and because the hosiery industry is more familiar with it than with wearing length. Tables VI and VII give

(*Continued on page 240*)

Table III—Basic Standard (Six length sizes)

Differential inch whole number. Standard based on the half inch. Deviation tolerance, one inch

Boarded Length	Half Inch Stand.	Dev. Inches	No.
26.11	26.50	−0.39	63
26.56	26.50	+0.06	95
26.94	26.50	+0.44	207
27.37	27.50	−0.13	392
27.75	27.50	+0.25	699
			1,456
28.18	28.50	−0.32	977
28.56	28.50	+0.06	1,338
28.94	28.50	+0.44	1,518
29.31	29.50	−0.19	1,509
29.67	29.50	+0.17	1,220
			6,562
30.12	30.50	−0.38	891
30.50	30.50	0.00	569
30.94	30.50	+0.44	293
31.31	31.50	−0.19	129
31.67	31.50	+0.17	62
32.06	31.50	+0.56	20
			1,964
		Avg. 0.28	9,982
"In" sizes, 24.92 to 25.72			28
"Out" sizes, 32.42			17
Total			10,027

Misfits None

Table IV—UHFM Standard (Three length groups)

Differential 2 in. Sizes 26 to 28, avg. 27; 28 to 30, avg. 29; 30 to 32, avg. 31. Deviation tolerance one inch

Boarded Length	Three Group Stand.	Dev. Inches	No.
26.11	27	−0.89	63
26.56	27	−0.44	95
26.94	27	−0.06	207
27.37	27	+0.37	392
27.75	27	+0.75	699
			1,456
28.18	29	−0.82	977
28.56	29	−0.44	1,338
28.94	29	−0.06	1,518
29.31	29	+0.31	1,509
29.67	29	+0.67	1,220
			6,562
30.12	31	−0.88	891
30.40	31	−0.50	569
30.94	31	−0.06	293
31.31	31	+0.31	129
31.67	31	+0.67	62
32.06	31	+1.06	20
			1,964
		Avg. 0.48	9,982
"In" sizes, 24.94 to 25.72			28
"Out" sizes, 32.42			17
Total			10,027

Misfits .002%

Table V

One length, 29 in.
Standard, 29 in.
Mfr. Tolerance, 1½±
Measurements same as Tables III and IV
Deviation tolerance, 1 in.

Boarded Length	Normal Standard	Dev. Inches	No.
26.11	29	−2.89	63
26.56	29	−2.44	95
26.94	29	−2.06	207
27.37	29	−1.63	392
27.75	29	−1.25	699
28.18	29	−0.82	977
28.56	29	−0.44	1,338
28.94	29	−0.06	1,518
29.31	29	+0.31	1,509
29.67	29	+0.67	1,220
30.12	29	+1.12	891
30.50	29	+1.50	569
30.94	29	+1.94	293
31.31	29	+2.31	129
31.67	29	+2.67	62
32.06	29	+3.06	20
			9,982
"In" sizes, 24.94 to 25.72			28
"Out" sizes, 32.42			17
		Avg. 0.81	9,982
"In" sizes, 24.94 to 25.72			28
"Out" sizes, 32.42			17
Total			10,017

Misfits 3,420 or 34.20%

Table VI—Midway thigh girth UHFM

Three width levels A-B-C
Measurements same as Table VII
Deviation tolerance, 1 in.

Girth Inches	UHFM Standard Girth	Dev. Inches	No.
16.14	17.00	−0.86	194
16.46	17.00	−0.54	304
16.93	17.00	−0.07	423
17.32	17.00	+0.32	511
17.72	17.00	+0.72	645
18.11	17.00	+1.11	741
			2,818
18.50	19.50	−1.00	878
18.90	19.50	−0.60	839
19.29	19.50	−0.21	856
19.69	19.50	+0.19	720
20.08	19.50	+0.58	726
20.47	19.50	+0.97	601
20.80	19.50	+1.30	498
21.26	19.50	+1.76	408
			5,526
21.65	22.00	−0.35	333
22.05	22.00	+0.05	240
22.44	22.00	+0.44	240
22.84	22.00	+0.84	149
23.23	22.00	+1.23	126
23.62	22.00	+1.62	103
24.02	22.00	+2.02	63
			1,254
		Avg. 0.85	9,598
"In" sizes, 14.10 to 15.75			244
"Out" sizes, 24.41 to 29.40			181
Total			10,023

Misfits 1,939 or 19.39%

Table VII—Midway thigh girth

One width 19.50 (1½ ± To lerance)
Measurements the same as Table IV wearing size. Mis-fit tolerance 1 in.

Girth Inches	UHFM Standard Girth	Dev. Inches	Number of Stockings
16.14	19.50	−3.36	194
16.46	19.50	−3.04	304
16.93	19.50	−2.57	423
17.32	19.50	−2.18	511
17.72	19.50	−1.78	645
18.11	19.50	−1.39	741
18.50	19.50	−1.00	878
18.90	19.50	−0.60	839
19.29	19.50	+0.21	856
19.69	19.50	+0.19	720
20.08	19.50	+0.58	726
20.47	19.50	+0.97	601
20.80	19.50	+1.30	498
21.26	19.50	+1.76	408
21.65	19.50	+2.15	333
22.05	19.50	+2.55	240
22.44	19.50	+2.94	240
22.84	19.50	+3.34	149
23.23	19.50	+3.73	126
23.62	19.50	+4.12	103
24.02	19.50	+4.52	63
			9598
"In" sizes, 14.10 to 15.75			244
"Out" sizes, 24.41 to 29.40			181
		Avg. 1.41	10,023

Misfits 4,620 or 46.20%

Table VIII—Misfit Summation

Method	Table	Mis-Fits	%
1—Basic standard. Differential 1 in. length	III	.....	.....
2—UHFM Standard 3 length groups, length	IV	.....	.....
UHFM Standard 3 width levels, width	VI	1,939	19.39
Maximum possible length and width	.....	1,939	* 19.39
3—General method one length and width size length	V	3,420	34.20
General method one length and width size width	VII	4,620	46.20
Maximum possible length and width	.....	8,040	80.40%

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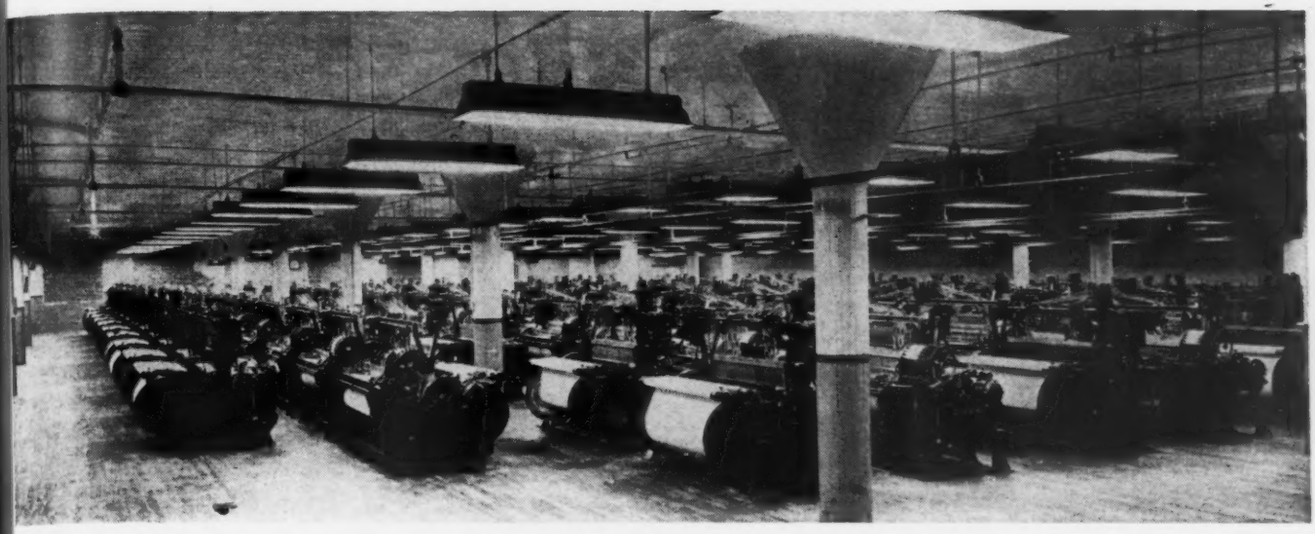

Fig. 1. A view of the Number One weave room at Ware Shoals Mfg. Co., Ware Shoals, S. C. Air-conditioning and lighting are as modern as the weaving equipment.

Ware Shoals Completes NEW WEAVE ROOM

HIGHLIGHTS: *New room sets style for others—New loom beams hold approximate equivalent of one bale of cotton—Carrier air-conditioning with Amco heads maintain year-round atmospheric conditions—Employee comfort and facilities emphasized*

By C. MALLARD BOWDEN, *Southern Editor, TEXTILE WORLD*

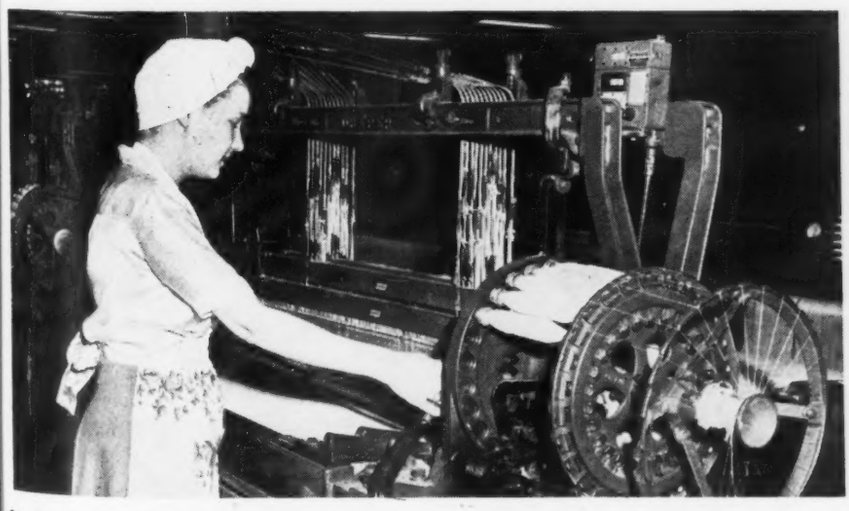

Fig. 2. An operator starts up one of the new X-2 looms. Eleven-harness gabardine is woven at 184 p.p.m. on this loom.

THE NUMBER ONE WEAVE ROOM of Ware Shoals Mfg. Co., Ware Shoals, S. C., completed now except for the tiling of interior walls, is a model of the departmental modernization which will be followed in all other weave rooms of this company. The new weave room has new looms, improved supplementary equipment, air conditioning, excellent employee facilities, and a painted interior which combines a scientific blend of colors for vision and comfort.

The looms are 44-in. Draper X-2 models equipped with Crompton & Knowles dobby heads and multipliers. Fine rayon or rayon-cotton blends will be woven on the looms, although 11-harness cotton gabardines are being made at the moment.

The combination of fine dobby weaves with high loom speeds is one of the most desirable characteristics of the new loom layout. The present operating speed for 11-harness gabardine is 184 p.p.m., which is a considerable improvement over the speed obtained from older looms on similar cloth constructions.

Of equal importance are the improvements Ware Shoals has obtained in the package sizes of warps and cloth rolls. An example of the 26-in. warp used by the new X-2 loom is shown in Fig. 3. Roughly speaking, this warp

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contains one bale of cotton; and it is estimated that the enlarged size of the loom beam increases the yarn capacity by about 50% over the amount obtained on the older beams.

The running time of the warp, however, would not be similarly increased, since the new looms operate at higher speeds and require more warp yarn in a given amount of time than do the old looms.

Cloth rolls have also been increased in size, and it was estimated that rolls up to approximately 30 in. in diameter are obtainable with the roll space of the new looms. Other variables affect the size of the doffed roll in the weave room, however; and an estimate of the actual increase in the amount of cloth per roll cannot be made at this time, although this increase is expected to be considerable.

The looms use 8¾-in. quills and have an extra-heavy girder construction to permit higher speeds with less loom vibration. Instead of using lag screws, the mill has used felt pads and glued the looms to the floor.

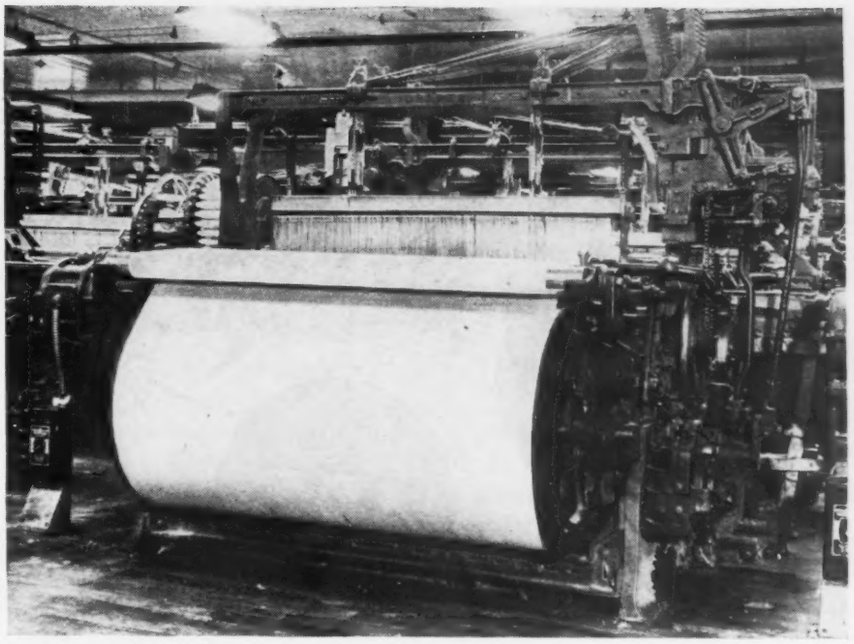

Fig. 3. A beam with a 26-in. head is carried by the X-2 loom, and an increase in the amount of yarn per loom beam is estimated at 50%.

AIR CONDITIONING. Carrier, Inc., equipment is utilized in the air-conditioning system. By changing the air and cooling the new air by evaporation, the mill reduces the temperatures of hot outside air, frequently exceeding 95° F., to about 84° F. or lower.

The air-conditioning controls are set to maintain standard temperatures; and by synchronizing the air changer with humidifier heads made by the American Moistening Co., a year-round stable air condition can be effected. This standard atmosphere increases the comfort of the employees as well as improves the running conditions of the room. Steam coils are installed in the air duct so that winter air may be heated if necessary.

The Ware Shoals Co. emphasizes the improvements in employee working conditions which result from the air conditioning and from other facilities and policies in effect in the Number One weave room. Modern lavatories, shower rooms, and lockers adjoin the weave room; and employees have smoking privileges in these rooms.

The painting of the weave-room interior is a good example of the industry's concept of the use of color. The blue-green color of the walls predominate; and according to the color engineer, these are psychologically "cool" colors well suited for weave-room conditions. Bright colors, however, are used to emphasize some moving parts of equipment for safety. An example of this application is the bright yellow color applied to the American Monorail warp-transfer system. Loom shipper handles and quill boxes are painted red.

Fig. 4. Modern lavatories and locker rooms are provided for the comfort and convenience of the workers, who also benefit from the air-conditioning installation.

Fig. 5. The controls for the air-conditioning and humidifying systems are being shown to Mal Bowden, Southern Editor, TEXTILE WORLD (in background).

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—RAYON ON WOOLEN SYSTEM—

LOWER DRAFT Needed For Rayon Than for Wool

HIGHLIGHTS: *Rayon also requires less twist than wool for similar results—Low tension best on roving—Twist multiple of 2½ times the run for warp yarn, 2 times for filling.*

By J. T. DRENNEN and T. A. BOSWELL
Textile Research Dept., American Viscose Corp.

THE SPINNING of rayon staple on woolen frames is not essentially different from the spinning of wool on this system. However, it has been found that rayon does not require so much twist as wool. Therefore, a percentage of the twist must be reduced in the final yarn to get the results looked for from woolen yarn.

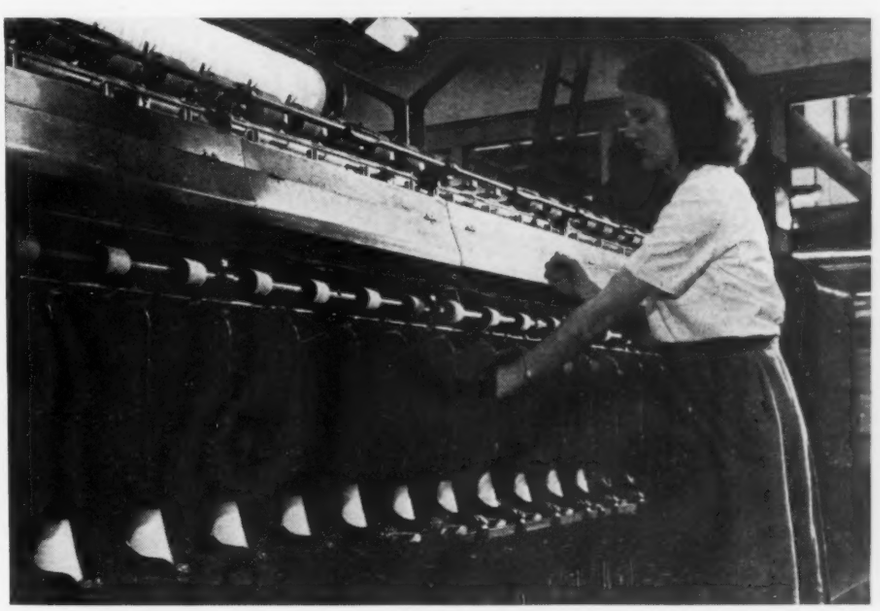
Our principal spinning problem was solved by the use of the light weight card-spools. [TEXTILE WORLD, Feb. 1946 pp. 242, 246.] We were confronted with the task of controlling slippage of the spool on the drum. This slippage was stopped simply by planing the drums, both on the card and on the spinning frame. The accomplishment of the primary objective, that of eliminating the slippage, brought with it other advantages. It allowed the roving to be wound from the card onto the spool under more even tension which, in turn, provided a more even delivery from the spool to the back roll of the spinning frame. Higher production, greater efficiency, and more even yarns were obtained when the slippage was eliminated as the danger of pulling weak spots into the roving at this point was greatly lessened.

However, the space between the spool and back roll is still an important point to watch for the formation of weak spots in the roving. The tension on the roving at this point should be kept as low as possible without allowing the ends to run slack. The importance of this tension cannot be stressed too much. Even though the ends do not break at this point, they may be sufficiently weakened to break later or may carry over into the yarn causing weak and uneven spots.

We have found the twister tube to be about the most important factor in woolen spinning. The correct twister-tube speed is essential in producing even yarns and is a great aid in maintaining high production.

If the roving fed to the spinning frame is soft or flat, or both, a higher twister-tube speed is necessary. In the case of soft roving, which has poor cohesion and will fall apart easily, an increased amount of false twist adds enough strength to keep the roving from breaking down during the drafting process. In the case of flat roving, the increased twist aids in restoring the roving to a round form. However, care should be taken to avoid excessive false twist, as the roving may become so strong it will not draft properly. Drafting will then take place between the back rolls and the spool, and broken ends may occur both above and below the back rolls; or weak spots will be formed which will produce poor-quality yarn. If the roving has been rubbed rather hard or is made of long-staple rayon, the twister-tube speed should be decreased. Twist is more effective in this type roving; and, therefore, less is necessary for proper drafting.

(*Continued on page 209*)



Spinning rayon on woolen frames differs only in details affecting twist, tension, draft, etc.

This concludes the series of four articles on spinning rayon on the woolen system. Previous articles appeared in December, January, and February issues.—Ed.

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HIGHLIGHTS: *Speed of spindle indicated without taking power from it—Dynamic balancing of shafts and cylinders is an important use of the stroboscope—Light sources for stroboscopic photography are now available.*

By DAN McCONNELL, *Plant Engineer, Proximity Mfg. Co.*

IF THE FLASHES of a stroboscopic light are timed so that the rotating body viewed appears to be standing still, and the number of flashes per minute is known, this number of flashes represents the revolutions per minute of the body. Thus, in the stroboscope we have a machine that will indicate the speed of a shaft without taking power from the shaft to drive a mechanical tachometer. Where taking even a small amount of power from a shaft would upset the accuracy of the reading—as with a fully loaded textile spindle—or where a shaft is not mechanically accessible except to a beam of light, the device has its most logical application.

Viewing spindles, bobbins, travelers, high-speed pulleys and shafts, sewing-machine needles and loopers, gears, chain drives, yarn balloons, and other such rotating and oscillating motions are some of the applications of the stroboscope of great value to the textile mill. Seeing the high-speed parts operating under actual loads but appearing to stand still will often reveal much about what is really going on in machinery.

DYNAMIC BALANCING. Another application is in dynamic balancing. This use is one that has not been explored to its full possibilities in many textile machines. Any long rotating part, such as a shaft or a card or slasher cylinder, may be in such good static, or "standing," balance that when it is mounted in nearly frictionless bearings and rotated no one part of it always stops at the bottom.

This standing balance might be achieved by having a heavy spot close to the center of the shaft at one end balanced by a lighter weight further from the center of the shaft at the other end. When the shaft gets up to operating speed, each of these unbalanced weights tries to pull away from the shaft; and vibration appears in the machine from the bearings having to absorb the

(*Continued on page 214*)

Theory of the Stroboscopic Effect

A stroboscope is a machine that will let the eye see a repeated mechanical motion during a flash of light that is shorter than the persistence of vision in the human eye. This persistence of vision is very nearly 1/16 sec. If the eye sees a picture from a flash of light 1/500 sec. in duration, and during the next 1/50 sec. sees another picture, and for each 1/50 sec. thereafter sees the same picture, the brain does not register the shortness of the flash but sees the pictures piled one on top of another to give one continued picture.

If the flashes are timed so that a spot on a rotating shaft is always in the same place when the eye receives the reflected light by which it sees, the shaft appears to be standing still. The same is true of a reciprocating motion that is repeated.

Fig. 1. ***Critical points of spinning can be seen at a standstill with a stroboscope.***

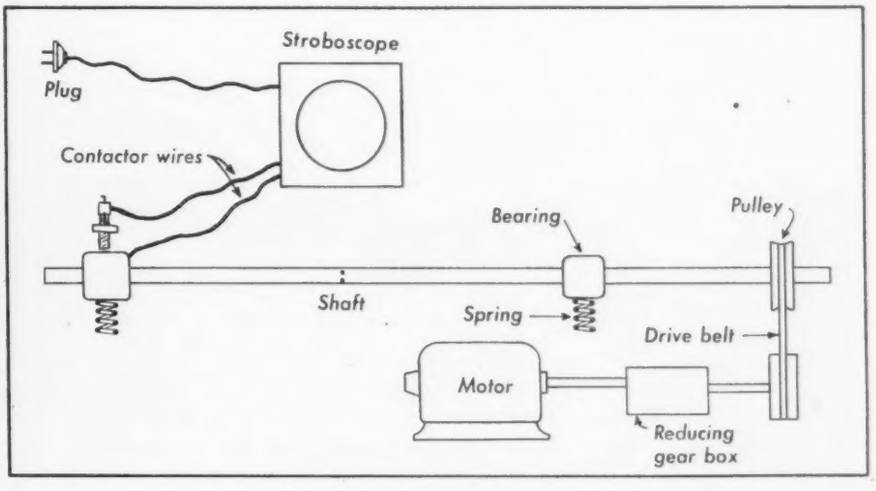
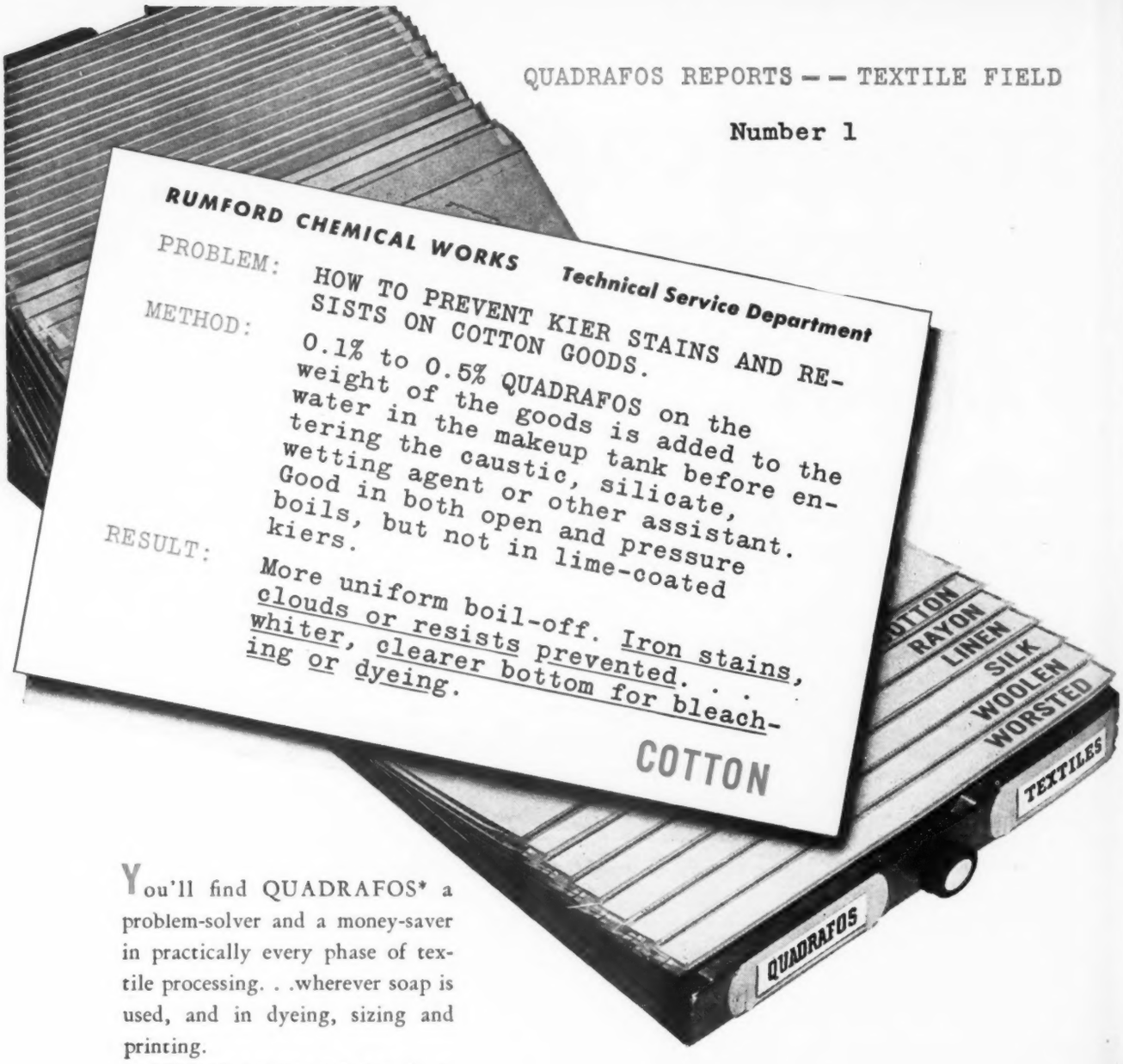


Fig. 2. ***Each time the vibrating bearing touches the contact point provided, the light of the stroboscope flashes once.***


QUADRAFOS REPORTS — — TEXTILE FIELD
Number 1
RUMFORD CHEMICAL WORKS
Technical Service Department
PROBLEM: HOW TO PREVENT KIER STAINS AND RESISTS ON COTTON GOODS.
METHOD: 0.1% to 0.5% QUADRAFOS on the weight of the goods is added to the water in the makeup tank before entering the caustic, silicate, wetting agent or other assistant. Good in both open and pressure boils, but not in lime-coated kiers.
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YARN FINISHING
Aided By Photography

HIGHLIGHTS: *Combed-yarn finishing plant at Mt. Holly, N.C., photographs samples of each lot of yarn run—Dialysis process enables mill to recover and purify used caustic—Special yarn-handling equipment features processing.*

By C. MALLARD BOWDEN
Southern Editor, TEXTILE WORLD

PHOTOGRAPHIC ANALYSIS of yarn and careful chemical recovery are two important features of the finishing of fine combed yarn at the American Yarn and Processing Co., Mt. Holly, N. C. Special yarn-handling equipment is also a necessary part of the finishing operations; and some bleaching is done, although the emphasis is upon the mercerization of Durene yarns.

A sample of the photographic method used is shown in Fig. 1. The objectives are to show the actual condition of each lot of yarn as received from the spinning mill and to provide a visual record of yarn grades, as well as the results from other testing.

When lots are received, representative samples are routed to the laboratory where specimens are mounted upon blackboards and photographed. Other specimens are tested for twist, breaking strength, appearance, and other physical characteristics. The results of these tests may be entered upon the blank spaces provided on the photographic print, thus centralizing a complete and permanent visual record of the yarn lot. A considerable quantity of the yarn is knitted into hose or other fabrics and tested for reaction to chemical processes such as mercerizing, dyeing, etc.

EFFECT OF MERCERIZING. Visual appearance records of fine combed yarns are necessary when mercerizing is to be done because of the effect of the process on cotton fibers. Mercerizing causes the lumen of the cotton fiber to swell and the fiber itself to untwist slightly, but it does not change the comparative characteristics of different yarn lots. If the yarn is in excellent condition when received, it should be in a similar condition after mercerizing; whereas, if the yarn is of uneven twist and possesses a low standard of characteristics, it will still retain these undesirable characteristics, in comparison with a good lot of yarn, after mercerization.

While microphotographs of the cotton fiber itself would be more revealing as to the results of mercerization upon the fiber, the use of ordinary

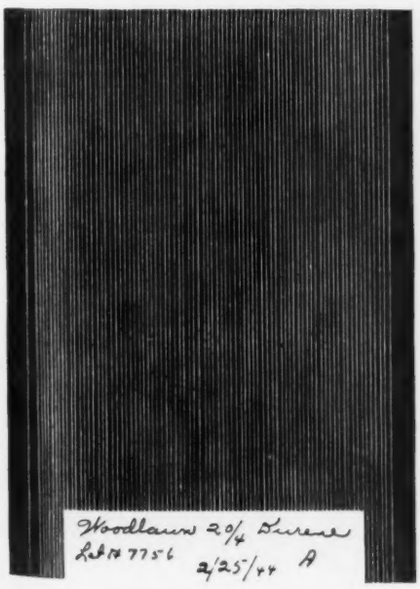


Fig. 1. A photographic record of a sample of yarn graded A. For reproduction here, a sample of 20/2 was selected instead of the finer numbers normally run.

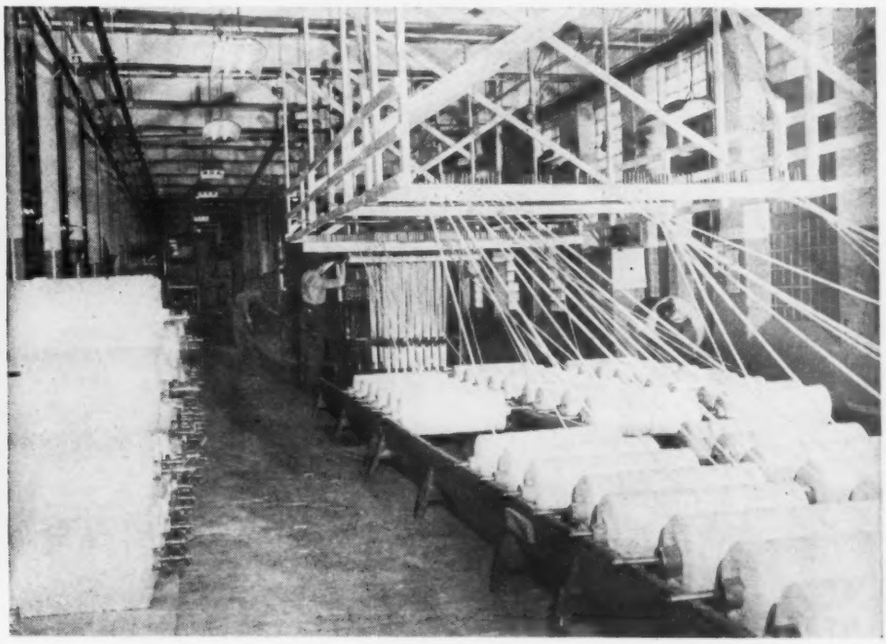
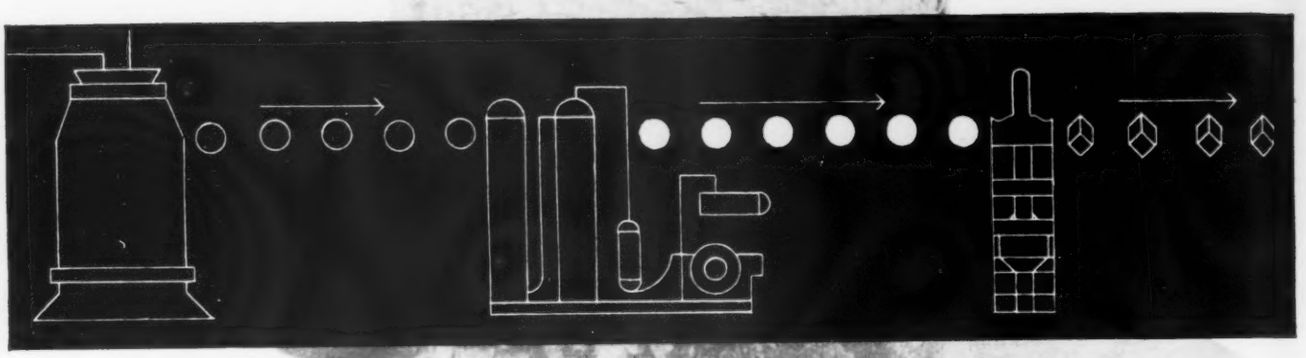


Fig. 2. Chemical and physical tests are made on each lot of yarn loaded behind the mercerizer range.

WHERE THE LIFE GIVING SPARKLE COMES FROM



The palate-tickling sparkle in this carbonated beverage—what's its source? Limestone, to begin with. In giant kilns limestone and coke are burned to form quicklime and carbon dioxide gas (CO_2). From there the carbon dioxide gas goes to a unit where it is purified and compressed into a liquid. This is conducted to a press, where it is allowed to expand to form "snow," which is pressed into blocks of *Dry Ice—140° colder than ordinary ice.* Dry Ice is used as a carbonator of beverages . . . as a mobile refrigerant for transporting fresh and frozen foods . . . as a fire extinguisher . . . in many other ways. The Wyandotte quarries at Alpena, Michigan, are kept busy furnishing limestone for the Wyandotte Dry Ice Plant at Wyandotte—the largest in the world. And from Wyandotte go also thousands of tons of chemicals each year to the soap, textile, paper, glass and other industries.

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Hydrogen • Sodium Zincates • Aromatic Intermediates • Dry Ice • Other Organic and Inorganic Chemicals

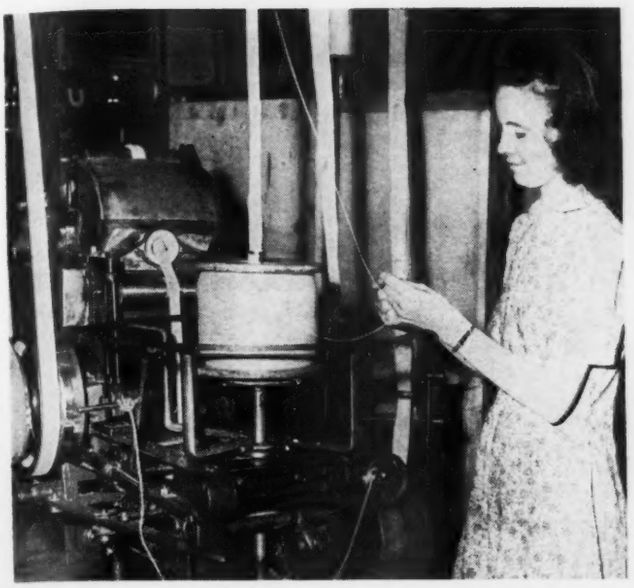

Fig. 3. After warps are mercerized, the yarn and the water ribbon which binds it must be separated. Lunell Christenberry ties the ribbon at the splitting machine.

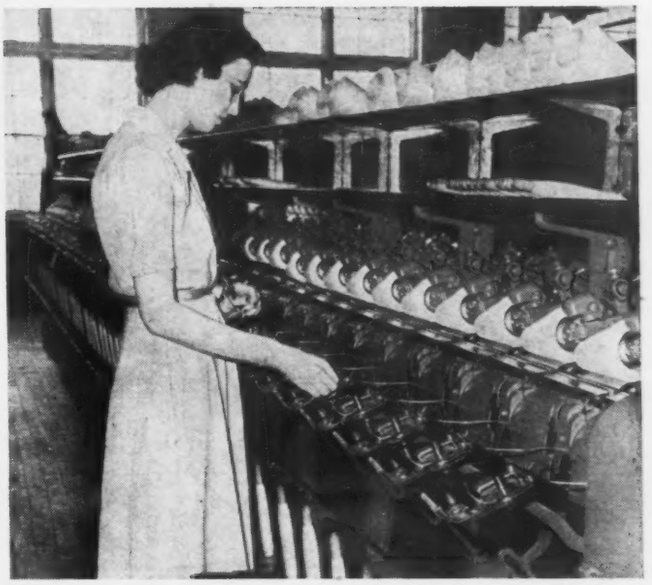

Fig. 4. The new Model-102 Foster winder, operated by Blanche Henkel, transfers the finished yarn to cones. After coning it is inspected, packaged and shipped.

photographs of blackboarded and graded yarns are practical enough to reveal the original commercial grade of the yarn. When finished yarns are boarded beside the original yarns, comparative tests can be made.

Careful chemical testing for pH, temperatures, etc., are carried out in the Mt. Holly mercerizing department in order to maintain standard processing conditions. The syncronized range handles ball warps in drafts of one to six warps each.

The overflow from caustic boxes is stored along with the recovery water containing the diluted caustic. The combination of these two sources usually results in a caustic content of about 15 Bé. After filtering through a sand filter, the solution is pumped to evaporating tanks where excess water is removed and the strength of the caustic raised to normal storage-tank strength.

CAUSTIC REPROCESSED. The use of Solvay's dialysis process enables the mill to purify and concentrate the used caustic. The caustic enters the dialysis machine at 41 Bé., filters, mixes with added water, and emerges at 15 Bé. The filters are a series of parchment cells in fixed bar position, and as the solutions move through these cells the dissolved cellulosic impurities are removed from the caustic.

The importance of proper controls during the mercerizing operation cannot be overemphasized. The controls used include the Bailey meter and circulation systems which maintain the box strength of the caustic. Boil-off temperatures are controlled, and Taylor instruments are installed on the Proctor & Schwartz paper-type dryer. The instruments control the steam admitted to the dryer and also permit the temporary addition of moisture to the yarn if necessary.

In event bleaching is not done, the next operation in finishing combed-cotton yarns is performed at the quiller. A Whitin quiller used at Mt. Holly is shown in Fig. 5. One of the most particular tasks in the finishing operations concerns the proper tension to apply at the quiller when winding yarns of various numbers. The tension is obtained through the use of a felt washer under the spindle whorl, and very poor winding can result if felts of incorrect weight are used.

From the quiller, which winds the yarn upon spinning-type warp bobbins, the yarn is carried to the model-102 Foster winders, where it is packaged on cones for inspection and shipment.

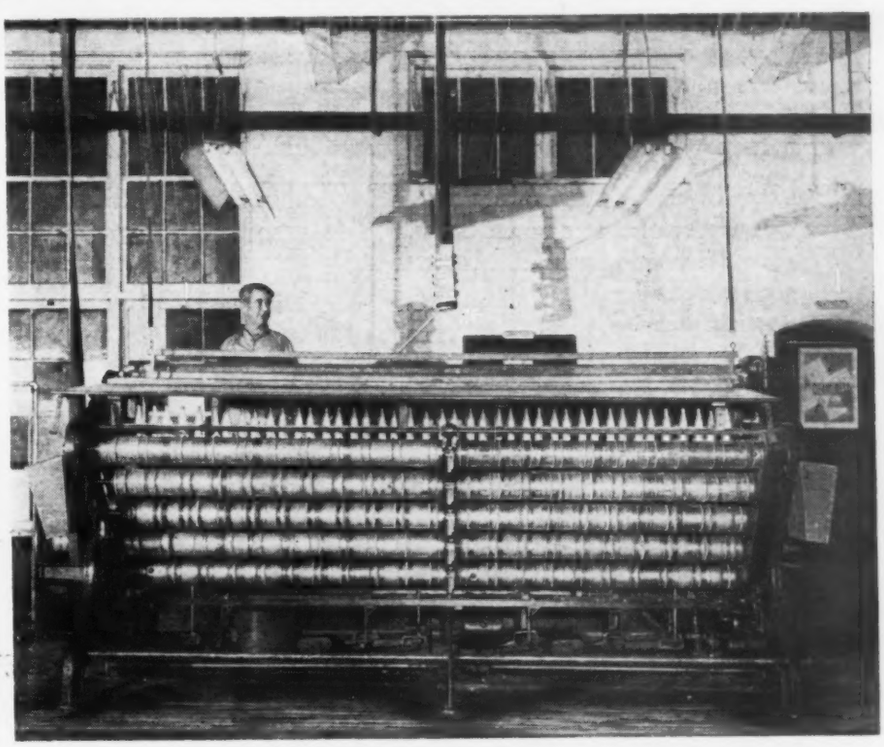

Fig. 5. George Colman operates a Whitin quiller which winds the warp on bobbins.

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RCK ACCEPTED FROM NEW ENGLAND TO TEXAS AS THE BEST FLYER FINISH

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The RCK finish lessens eye strain caused by the glitter of highly polished flyers.

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Many mills have been using RCK treated flyers for 4 years and find no sign of rust.

The list of mills now using RCK treated flyers reads like the roster of "Who's Who" in the textile industry. Big mills, little mills, old mills, new mills . . . all recognize the advantages of the black color, smoothness, and rust-resistance of RCK. One chain of mills is now using over 30,000 RCK treated flyers.

The kind of research that achieved the unmatched RCK finish gives the same superiority to Ideal's methods of rebuilding and balancing flyers and spindles.

RESTORED TO STANDARD SIZE AND FIT

When flyers and spindles are rebuilt at the same time, worn barrels are swaged with Ideal's swaging machine to fit spindle tops perfectly . . . they run like new.

PRECISION BALANCED

at highest running speeds with

IDEAL'S BALANCING MACHINE

ALSO REGULAR and RAYON FINISHES

for mills where bright finishes are preferable.

OVER 200 MILLS NOW USING RCK TREATED FLYERS

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We Furnish Extra Flyers and Spindles Without Charge While Yours Are Being Repaired

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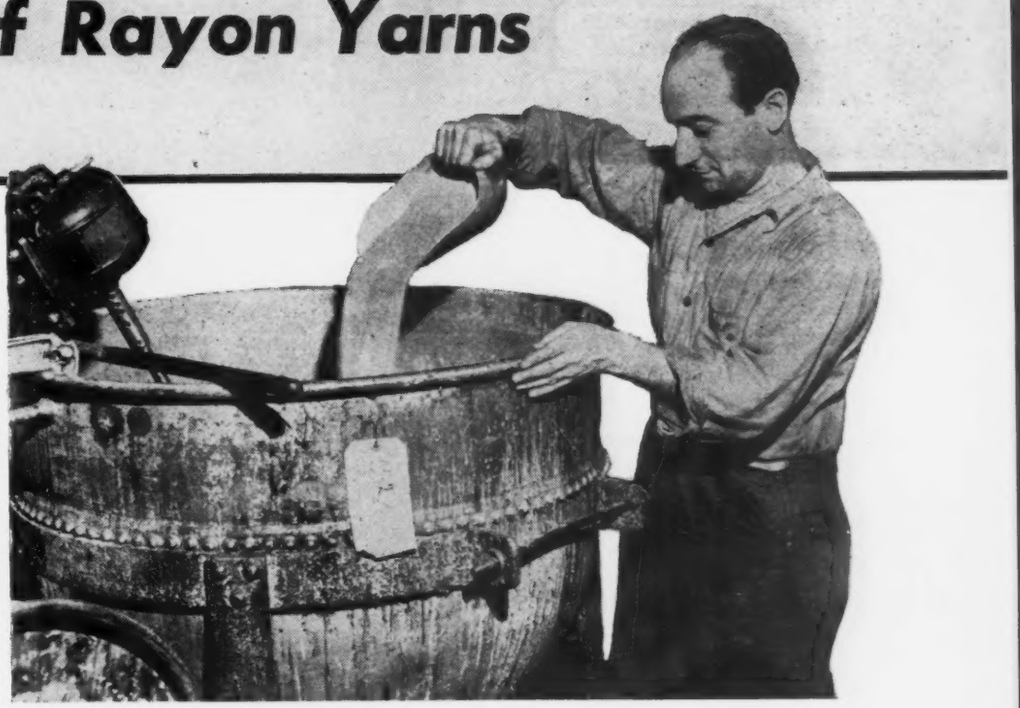
GELATIN GRADES Affect Slashing of Rayon Yarns

HIGHLIGHTS: *Earlier experiments led to current satisfactory techniques —Gelatin sizes wash out at relatively low temperature and save rayon from damage—Can be combined with low-temperature starches—Specific gelatin grades are suitable for various kinds and deniers of synthetics—Foam caused by some rollers, oil, pH.*

By H. B. SWEATT

Director, Animal Glue Information Service National Association of Glue Manufacturers, Inc.



Sift gelatin slowly into cold water that is agitated by paddles or by a mixer as shown. Wet out thoroughly before dissolving with heat.

DESPITE MANY YEARS USE of gelatin glue in slashing rayons, it has been in comparatively recent years that mill men and glue manufacturers have been able to convert gelatin application from a trial-and-error method to a technique. Although gelatin glues were tried out as soon as rayon began to receive wide public acceptance, mills selected the fine-grade gelatins and tried to continue use of their single-drum warp-slashing machines which were suitable for cotton. Results from these earliest uses of gelatin glue indicated it should give the desired results which the starch then used could not.

Although gleatin glue was found satisfactory early in rayon production, it was not the only sizing material tried. Certain types of waxes can be used, or linseed oil and starches. But any substance deposited on or impregnated in a yarn during slashing cannot be permanent and must be removable, easily and economically. Gelatin glue was found to come closer to meeting that requirement than most other products.

While use of animal gelatin glue has been increasing, starch has also been finding a place for itself in combination. Formerly, starches required boiling for long periods in the washout. When acetate or viscose spun rayons became popular, several slashing problems suddenly appeared. Spun rayon possesses some physical characteristics which are diametrically opposite to continuous filament rayon, just as the latter differs from cotton and other fibers. Certain of spun rayon's latent qualities are seriously harmed by usual methods of slashing. The product is hairy, while continuous filament yarn has a sleek outer surface. Consequently, in sizing spun rayon, the primary object is to either to lay this fuzz or impart a dormant condition in the yarn.

PROPERTIES OF GELATIN GRADES
(Established by National Association of Glue Manufacturers)

Assn. Grade Number	Jelly Strength (gms) Grade Range	Viscosity (mp) Grade Range
8	178–206	65– 72
9	207–236	73– 80
10	237–266	81– 89
11	267–298	90– 98
12	299–330	99–108
13	331–362	109–118
14	363–394	120–130
15	395–427	131–142
16	428–460	143–155
17	461–494	156–168
18	495–526	170–185

BOILING. As boiling temperatures during the boiloff damaged spun-rayon fabrics, gelatin glues which did not need boiling to remove contributed to solving this problem. About that time several starch manufacturers developed a highly soluble, low-temperature starch. This was derived from tapioca, and when blended with gelatins was found thoroughly compatible.

Although gelatin glue is in wide use for slashing both acetates and viscose rayons, understanding of its functions provides good background to consideration of the grades and types usually recommended for different deniers. In sizing an acetate, higher concentrations are generally needed than for a viscose yarn because the acetates are more water repellent. Also, these two types of rayon differ substantially in requirements of jelly strength in the gelatins used. Viscose requires a much lower jelly-strength gelatin than acetate for best results. But the principle factor in any such slashing solution is the balance between softener and adhesive. Water is merely the medium to complete the operation of applying size to the yarn and to pro-

You get 3 for 1 when you use

"REDUCES SHEDDING TO A MINIMUM"
"MAKES SLASHER BLANKETS LAST LONGER"
"INCREASES PRODUCTION BY REDUCING FRICTION AND BREAKAGE"
"GOES THREE TIMES FARTHER THAN ORDINARY SIZING".
Caro-Gant
A CONCENTRATED COTTON WARP SIZE

Yes, when you use Caro-Gant, the modern scientific sizing compound, you get the equivalent of three barrels for one with a substantial saving in slashing costs. Because Caro-Gant is 100% concentrated – no moisture – no salts – it goes three times farther than ordinary sizing compound.

Actual experience of leading mills over many years proves that the use of Caro-Gant consistently results in higher efficiency in the weave shed.

Caro-Gant is perfectly balanced and works on any kind of weave from coarse to very fine. It guarantees good kier boiling because its ingredients are easily emulsified and removed. With Caro-Gant, you eliminate soft warps, brittle yarns, excessive shedding, unnecessary loom stoppage and profit-reducing seconds. It is the proven satisfactory compound for cotton warp dressing.

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tect flaring filaments from possible abrasion during weaving.

Sizing, however, must not diminish the natural elongation characteristics of a yarn. In this, opinion varies as to the proper amount of stretch essential for an acetate or a viscose yarn. Experience indicates to many mill men that there is danger if acetate is elongated more than 4% and viscose mor than 6%. But regardless of the stretch percentage, it is agreed that it should be kept constant. Acetate stock, for example, is run through the size solution by the depression roll before entering the squeeze rolls. Viscose warps, however, run directly through the squeeze rolls with the bottom roll immersed in the solution and carrying it to the nip of the rollers. So, it is usually agreed that squeeze rolls should be adjusted to insure even application of size. Customary practice is to use one pound of solution to every pound of yarn in the warp.

Another factor that influences gelatin sizing concentration in slashing is the type of material for which it is intended. For example, taffeta, which is easy on the warp, requires the lowest size concentration to protect from abrasion. Satin weaves, which are harder on the warp usually call for higher sizing concentrations in the slashing.

From the foregoing, it is evident that the exact amount of sizing protection afforded by the gelatin glue needs to be carefully evaluated.

LABORATORY TESTS. As laboratory tests began to develop more specific knowledge about gelatin glues for sizing, it was discovered that a gelatin glue of high quality materially strengthened the sized material, but greatly reduced its elongation. Under the microscope, it was seen that there was lack of penetration between the filaments. When this size concentration was reduced to permit greater penetration, the coating became too delicate to protect the yarn from abrasion. Tests on gelatin glue stock low in jellying properties applied to acetates indicated that an excessive amount was required and the final result was likely to be a heavy and often gummy or sticky coating. Further tests showed that a No. 12 grade was likely to be the best type of gelatin for slashing acetate warps.

Cuprammonium reacts to size solutions about the same as viscose, but in certain cases the former may require slightly higher concentrations. These viscose and cupra yarns are highly water absorbent and consequently offer little resistance to penetration by the size. Surface friction on their filaments is reduced because of lack of static, and this permits a lighter sizing. Tests to obtain protection of ends while retaining maximum elongation for the loom have indicated that No. 9 grade gelatin is usually most satisfactory for size solutions.

JELL STRENGTH. Although tests have indicated that high-quality gelatin glues tend to reduce elongation, the higher grades are generally recommended for the finer deniers. The former theory that the molecules in the low-jelly-strength gelatin glues are too large for the fine film needed in fine deniers has been somewhat shaken if not disproved by numerous tests. The lower grades of gelatin glue have been found upon examination and test to have a smaller molecule as a rule than the higher qualities because of hydrolization in production. But these lower grades have the disadvantages of being sluggish and not penetrating so well as the higher grades. Because of findings such as these, glue chemists usually suggest use of a No. 11 or 12 gelatin glue for deniers between 35 and 60. Certain laboratories have urged establishment of gelatin-glue standards for the different deniers as follows:

For crepe soaking:
Higher crepe soaking.....No. 18
Regular crepe soaking....No. 15

For slashing viscose and cuprammonium:
Slashing finer deniers.....No. 11
Slashing medium deniers..No. 10
Slashing coarser deniers..No. 9

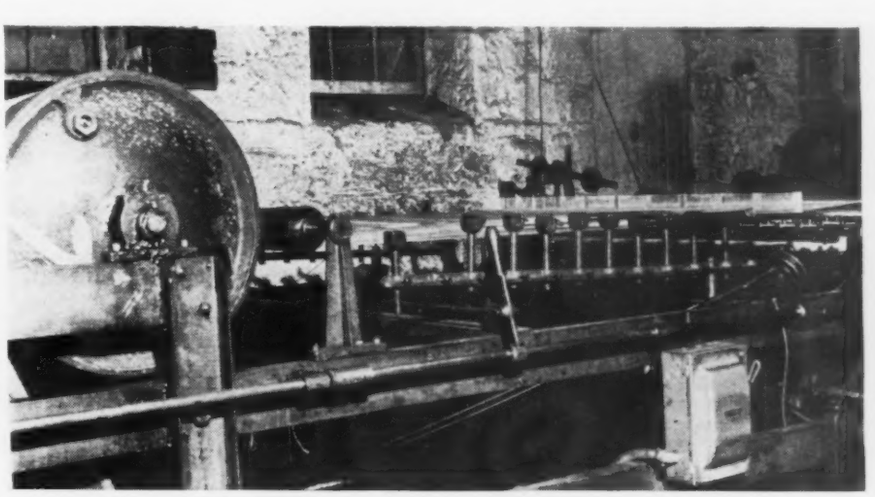
No. 11 and No. 12 grades are recommended for slashing acetate with the No. 12 specified for finer deniers.

SOFTENERS. After war-shortages set in, mills found a new difficulty developing. The washout began to present a problem because substitute or alternate softeners had to be used. Sulphonated olive oil became difficult to get and high in price. Sulphonated castor oil could be used as a softener; but it, too, was high in cost, so cottonseed oil blended with cocoanut oil began to be introduced as a softener; and in certain cases (ordinary) mineral oil was used. Each of these softeners had its own characteristics as a softening agent, and it has taken time to determine just how each differs from the usual action of sulphonated olive oil.

A particular difficulty in use of gelatin glue and starch combinations for sizing has been the adoption of treatments that might be good for one ingredient or the other in the goods, but not for both. For example, many cotton mills since the war have been combining rayon and cotton; and there have been frequent unsatisfactory results because of the two different slashing treatments and washouts required. Starch has to be boiled into an emulsion; and then, after weaving, the product is boiled from two to three hours to remove the starch. In a continuous boil-off, time would only be 15 min.; and probably some starch would remain. But under such treatment, the chemical structure of the rayon content would be damaged. Among several methods of handling this problem is one which starts with the combining of the gelatin and starch. The products are prepared separately; and when the starch has cooled to 150° or 160° F., the gelatin glue is added. The latter aids removal of the starch in the washout, and the sizing is entirely removed in about 15 min. at 180° to 190° F.

KEEP HEAT LOW. Caramelization (cooking) may develop to cause damage

(*Continued on page 216*)



Tear marks evident on beams and in rayon cloth are sometimes caused by size spots which are torn apart by the split rods in front of the slasher.

UP UP UP GOES PRODUCTION

Rear view of model E loom with whip roll removed to show spreader and auxiliary parts.

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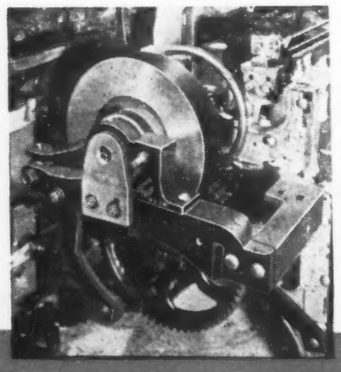
Hunt Spreaders

. . . ON YOUR PRESENT EQUIPMENT

Accelerated loom speeds up to 18%! Pick increases from 18 to 30 picks per minute! Production losses due to breakdowns cut to a bare minimum! That's the amazing record of HUNT SPREADERS, proven by actual day-to-day operation in over 120 southeastern mills. Have you investigated the possibilities for your plant? Write or wire for further information today.



HUNT FLYWHEEL DRIVE, companion installation to the Hunt Spreader. Ball-bearing clutch operation gives same effect as individual motor drive (starts from any position). Replaces tight-and-lose pulley drives. Prevents damage to loom from slamming.

Mountain City Foundry & Machine Co.

200 ACADEMY STREET, GREENVILLE, S. C.

BETTER MAINTENANCE
Reduces Mill Fires

HIGHLIGHTS: *Records show that improvements in maintenance and cleaning will reduce cotton-mill fires—Associated Factory Mutual Fire Insurance Cos. recommend oiling surveys in mill—Faulty electrical equipment is a constant cause of fire.*

By W. E. PETERSON

GOOD HOUSEKEEPING and better maintenance in the opener and picker rooms were found to be important factors in the improved fire record of the 212 Southern cotton mills which cooperated with the Associated Factory Mutual Fire Insurance Cos. in their fire-expectancy survey. While the methods used by the mills were varied to meet individual conditions, some of these methods are applicable to a great variety of cotton mills.

Smooth and economical operation of the opener and picker rooms depends largely upon machinery performance. No other single factor is of equal importance; and a definite cleaning, lubrication, and maintenance schedule of machines should be developed, printed, and filed conspicuously in the overseer's office. Some mills prefer to post copies of maintenance charts in the rooms where they apply. This allows employees as well as supervisors to see the accepted schedules.

Overseers usually follow up these schedules not only to see that they are practiced but also to give whatever in-

OPENER-ROOM CLEANING AND MAINTENANCE SCHEDULE

Cleaning	*Frequency*
1. Remove motes from vertical openers and horizontal cleaners.	4 hr.
2. Clean grid bars in all opener equipment.	4 hr.
3. Clean floor under blending feeders.	4 hr.
4. Clean floor around all machinery.	4 hr.
5. Blow off machines with compressed air.	8 hr.
6. Empty blending-feeder mote boxes.	8 hr.
7. Pick chokes from beaters, shafts, screens, etc.	8 hr.
8. Clean grid bars in gyrator.	8 hr.
9. Wipe off machinery thoroughly.	Weekly
10. Clean aprons and apron shafts. (Minor repairs should be made to aprons as needed, thereby eliminating most of the major repair jobs.)	Weekly
11. Blow down overhead, clean pulleys, shafts, etc.	Weekly
12. Clean out dust room.	Weekly
13. Blow out electric motors, switch boxes, and other electrical equipment.	Weekly
14. Fill all fire buckets. (Once a month all water should be emptied, buckets thoroughly cleaned and refilled to 1½ in. from top of bucket.)	Weekly
15. Inspect small hose and fire extinguishers.	Weekly
16. Inspect dust- and cotton-conveyor piping.	Monthly
17. Instruct and drill fire squad.	Monthly
18. Keep loose cotton picked up constantly from under and around machinery, feed it back regularly to prevent an accumulation that might cause streaks in the mix.	
19 Do not feed any cotton from newly laid down mix until all bales have been opened and floor around cotton and machinery swept clean.	
20. Schedule one machine every two weeks for overhauling and repair work. (See that schedule is maintained.)	
21. Keep accurate records of overhauling and repair work on the weekly overhauling report and machinery cards.	
22. Work continuously to eliminate leakage of cotton from machines to save labor and improve appearance of opener room.	
23. See that correct oiling schedule is posted in departments and rigidly followed in order to prevent undue wear at bearings. The presence of so much grit and dirt in opener room makes proper oiling a matter of prime importance. Keep all oil holes cleaned out.	
24. Work to eliminate causes of chokes in opener line and conveyor system.	
25. See that grid bars are properly set for maximum efficiency Keep them clean and uniformly spaced. (Bent bars will cause loss of good fiber, and they are a fire hazard due to packing of cotton and grit between grid bars.)	
26. Do not feed foreign material into blending feeders. (It will cause serious damage to machinery and is a fire hazard.) Foreign material should not be tolerated on floors.	
27. After repairs are made to machinery, see that all surplus nuts, bolts, screws, or other parts are removed from both inside and outside of machines.	
28. See that there are extra drive belts or rope drives available and ready for use at all times to prevent loss of production in case of breakage or damage by fire.	
29. See that an ample number of aprons are available for prompt replacement of damaged aprons.	
30. Make certain that fire doors are operating freely and are not obstructed.	

Fig. 1. An example of properly planned maintenance and cleaning for the opener and picker rooms.

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Fig. 2. This type of reflector can be fitted with an inexpensive dust-tight glass cover.

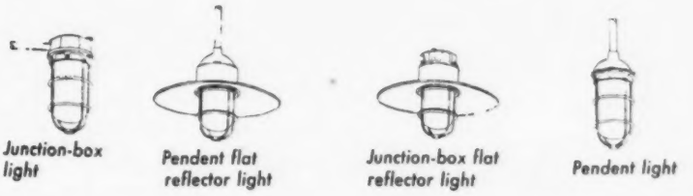

Fig. 3. A few of the many types of vapor-proof incandescent fixtures approved for opener and picker rooms.

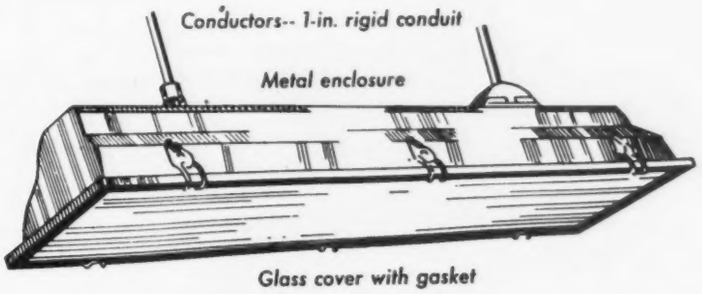

Fig. 4. Rigid conduit and dust-tight glass covers should be installed on fluorescent fixtures in the opener and picker rooms.

struction in proper maintenance of equipment results in maximum production as well as in properly operating machines and fewer fires. The cotton mills having well-trained maintenance employees have 15% fewer fires than mills where this help is not properly trained. [See article on specialized maintenance control in the Jan. issue, page 102.]

SCHEDULES. While cleaning and maintenance schedules will vary according to the type and speed of equipment, a suggested schedule is shown in Fig. 1. The exact time factor may not apply to all mills, but certain of the individual tasks are extremely important for the prevention of fires. Tasks No. 3 and No. 4 of the chart, for instance, concern the cleaning of the floor around machinery; and the suggested time is every four hours. If bales are opened directly in the opener room, some mills do additional cleaning. One of the best practices encountered is that of the mill which requires periodic cleaning and a thorough sweep-up before additional bales are laid down in order to eliminate loose buckles or other foreign material left from previous bales.

All of the larger oil companies have engineers who will make oiling surveys of cotton mills on request, and 62% of the 212 mills had obtained this service. The objectives of the oil surveys were to minimize the number and grades of oils and greases used, to set up a proper oiling schedule for the machines, and to specify the exact type and quantity of lubricants to be used on each machine. The mills in which oil surveys had been made reported 15% fewer fires and improved lubrication costs and machine performance.

The oil survey is important, but an oiling schedule properly followed is more important. Mills with unsatisfactory oiling schedules have 30% more fires than mills which follow good oiling practices.

ELECTRICAL EQUIPMENT. Since 1928, the National Electric Code has classed areas where combustible fibers are handled, manufactured, used, or stored as hazardous locations and has required dust-tight cabinets or enclosures for switches, over-current devices, etc., enclosed motors, and dust-tight lighting fixtures. These requirements have never been directly enforced or followed, possibly because of the higher cost of dust-tight equipment. Because of the lack of suitable equipment, fire losses from electrical causes comprises a substantial part of all losses in textile plants.

The cost of dust-tight enclosures for switches, motor controllers, etc., is from 80 to 100% higher than standard sheet-metal enclosures; but there is a semi-dust-tight, sheet-metal enclosure which is only slightly more expensive than the standard enclosure. The use of this type of enclosure is recommended as the minimum acceptable cover for switches, cut-outs, and motor controls in the opener, picker, lap-storage, waste, and dust rooms.

Ordinary open-type motors are subject to severe lint and grit conditions in the cotton preparatory departments and require frequent cleaning and maintenance. Totally enclosed motors should be provided for opener, picker, and waste rooms since they increase safety from fire and reduce cleaning and maintenance.

Totally enclosed fan-cooled motors should not be used where lint conditions are severe, as the ventilating passages are likely to become obstructed. Specially designed open-frame textile motors, with smooth windings and large ventilating passages, are available and may be installed where the preferred totally en-

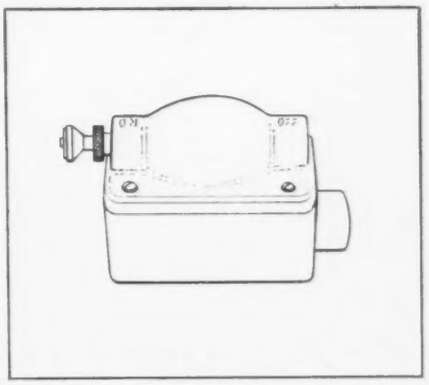

Fig. 5. An approved type of switch. Note the dust-tight enclosure and the tumbler switch.

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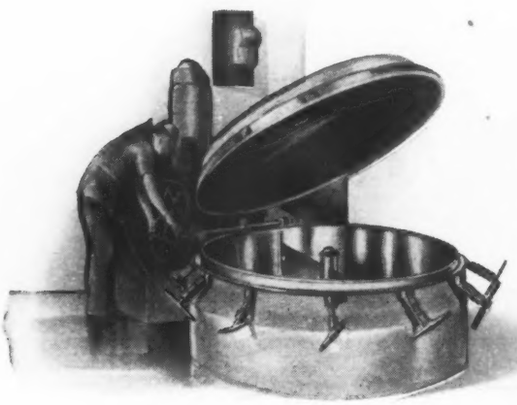

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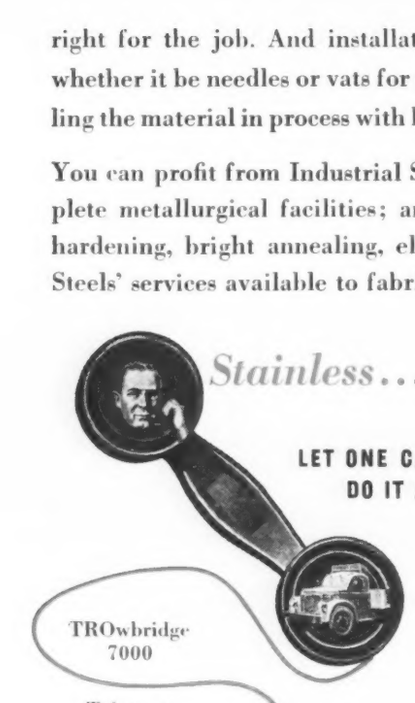

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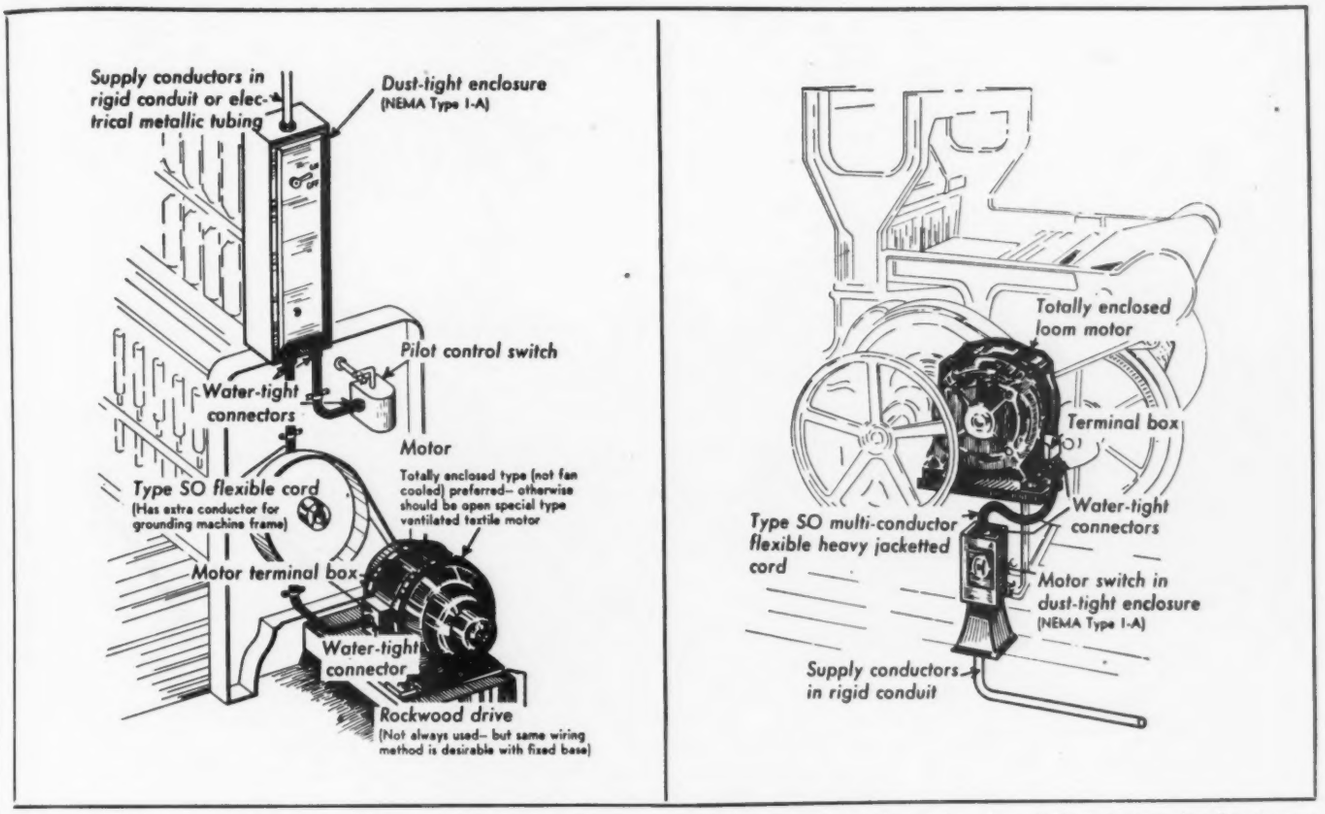

Supply conductors in rigid conduit or electrical metallic tubing
Dust-tight enclosure (NEMA Type 1-A)
Pilot control switch
Water-tight connectors
Motor
Totally enclosed type (not fan cooled) preferred– otherwise should be open special type ventilated textile motor
Type SO flexible cord (Has extra conductor for grounding machine frame)
Motor terminal box
Water-tight connector
Rockwood drive (Not always used– but same wiring method is desirable with fixed base)
Totally enclosed loom motor
Terminal box
Water-tight connectors
Type SO multi-conductor flexible heavy jacketted cord
Motor switch in dust-tight enclosure (NEMA Type 1-A)
Supply conductors in rigid conduit

Fig. 6. Newer types of electrical equipment favored for spinning frames and looms. The Nema Type 1-A dust-tight switch box, the Type SO flexible cord (which is oil resistant), and the totally enclosed motor are approved also for opener and picker rooms.

closed motors cannot be used because of their size limitations. Open-frame motors should not be installed in dust rooms or areas of equivalent hazard.

Pendent incandescent lights are a constant cause of many fires in cotton mills. Many of these fires have followed injury to lamp cords. Brass-shell sockets, especially the key or chain-pull types, frequently cause sparks which ignite combustible lint.

LAMP GLOBES. Dust-tight globes should be provided over all incandescent lamps in opener, picker, lap-storage, waste, and dust rooms. There are also certain types of reflectors with a tight glass cover which will keep out lint and confine hot filaments from broken lamps. Many standard reflectors now in use may be easily equipped with these glass covers. Lights preferably should be mounted in rigid constructions at the ceiling. If pendent lamps are necessary, the use of pipe pendents and either the reflector socket or the aluminum-jacketed, porcelain, keyless socket will increase the fire-prevention effectiveness of the installations.

If fluorescent lights, either the hot- or cold-cathode types, are used in the opener and picker rooms, they should be held in dust-tight fixtures and supported by two chains or two pipe hangers. When supported by chains, the fixtures should be supplied with a heavy-duty, rubber-jacketed, flexible cord spliced to the branch-circuit wires in the ceiling outlet boxes or provided with twist-lock attachment plugs. Unless the fixtures are properly grounded through the hangers, an extra conductor for grounding them should be provided in the flexible cord.

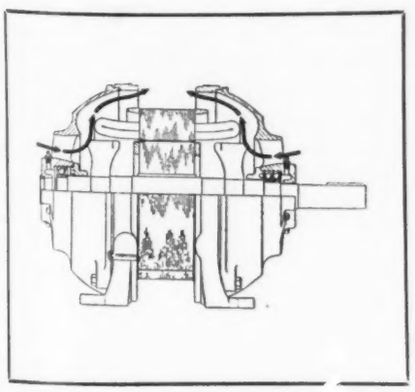


Fig. 7. The ventilated textile motor is satisfactory for use on spinning frames. Totally enclosed motors are preferred for opener, picker, and weave rooms.

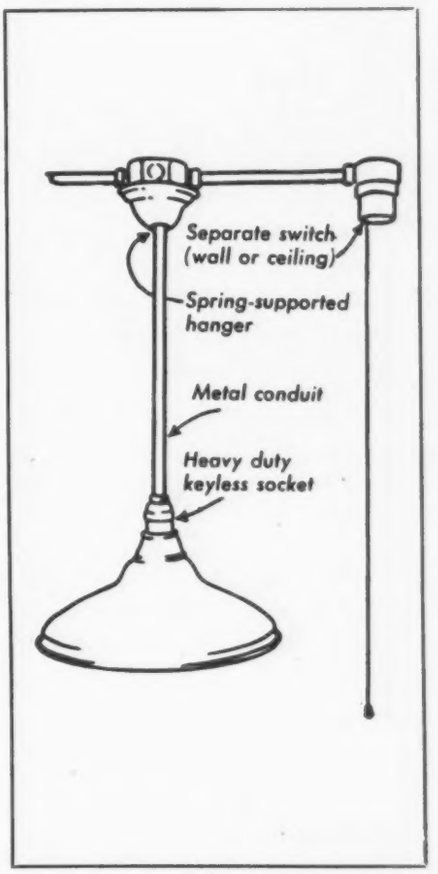
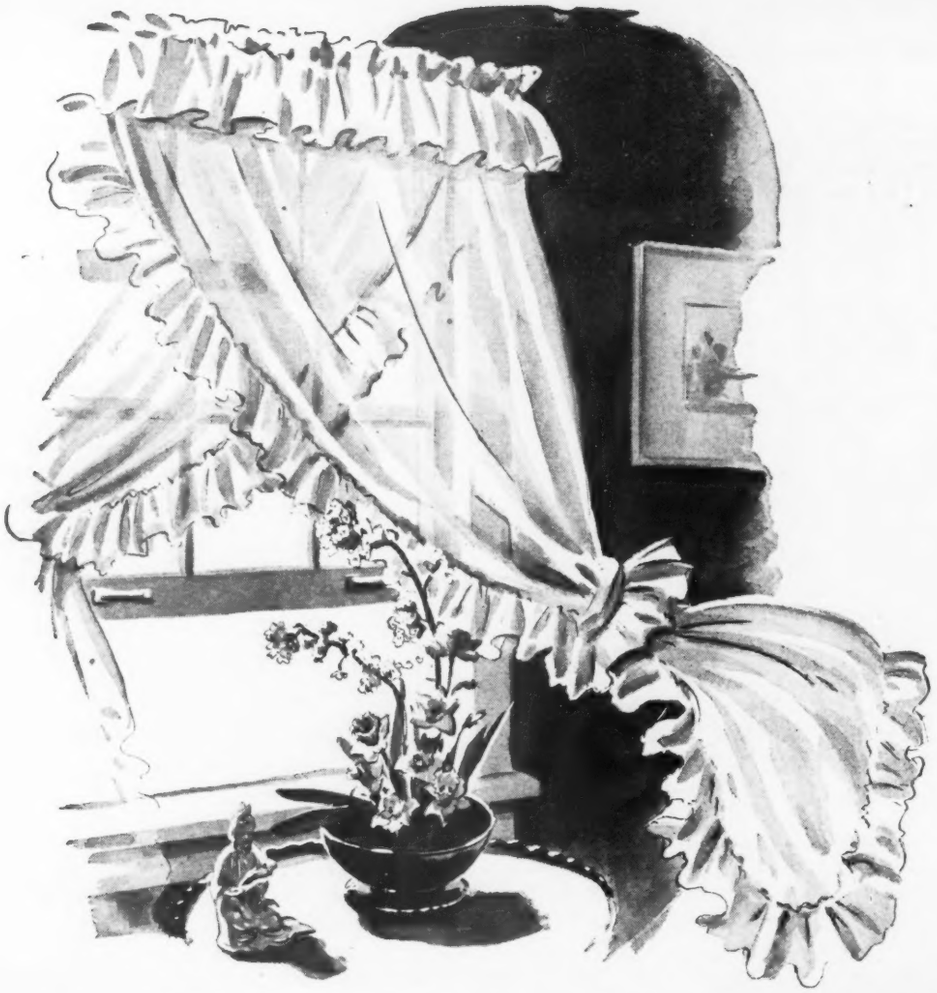


Fig. 8. Metal conduits should be used wherever pendent fixtures are required.

This is the third and final installment of a series of articles based on the report of the Associated Factory Mutual Fire Insurance Cos.—EDITOR.



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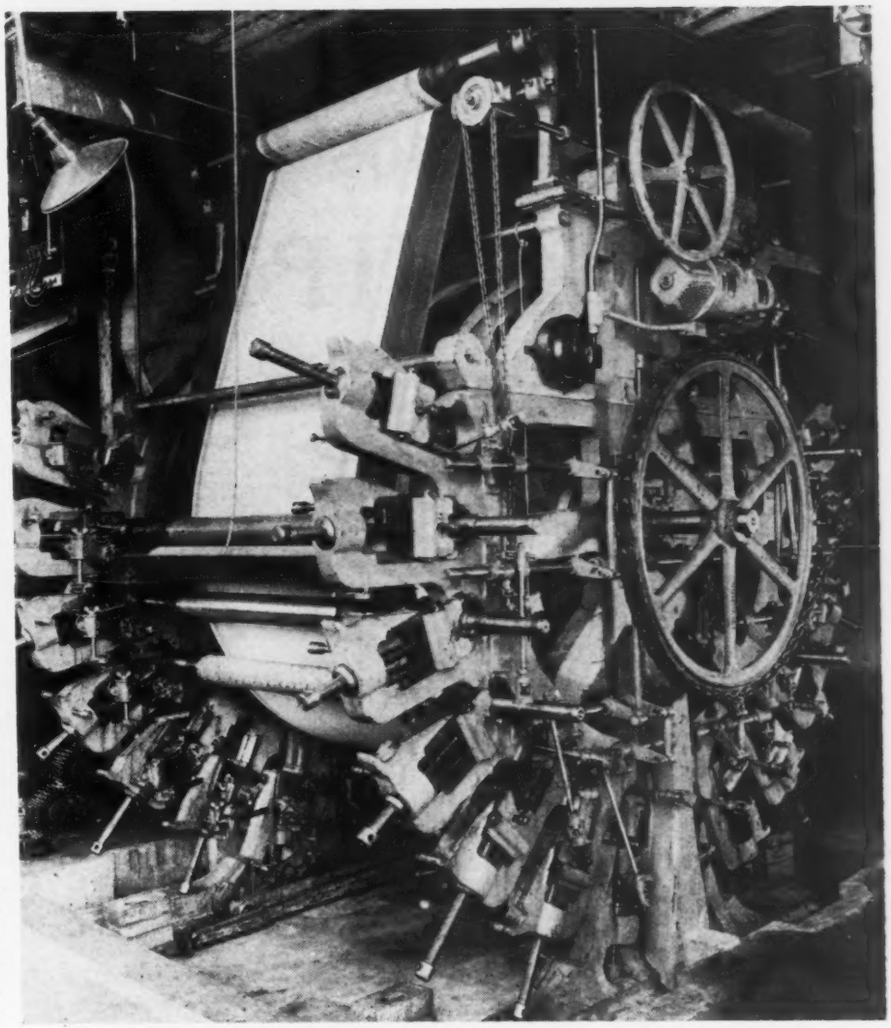
SOAPING Is Key Step In Preparing Cloth for Printing

HIGHLIGHTS: *Scouring quality of soap is important in preparatory processing—Wetting powers aid greater penetration of dyes and printing colors—Brightening and clearing of colors is a prime objective.*

By T. N. PATRICK



De-sizing is usually best as a preliminary process when prints are to be given a final soaping treatment for improving the colors or purifying the whites.

SOAPING has an important place in textile processing, particularly in connection with dyeing and printing, but its effective use requires extreme care and a keen appreciation of many variable factors.

The use of soap in preliminary scouring liquors is considered essential in many preparatory processes for dyeing and printing. Rinsing after de-sizing often is not sufficient for thorough removal of cloth impurities. Care must be taken, on the other hand, to avoid the formation of insoluble soaps. Residual calcium salts from pressure boiling with milk of lime or from calcium hypochlorite bleaching liquors may cause trouble if not thoroughly removed by sours, anti-chlors, and rinses prior to soaping treatments.

Soap may be added to pressure-boiling liquors provided similar care is exercised. Other additions for prevention or removal of insoluble soaps, such as various branded products, metaphosphates, etc. may be used. Expense is usually the objection to use of such assistants; but in many cases, particularly in preparation of cloth for printing, it will be found that improved results more than justify the outlay.

While these uses of soap in preparatory processing are generally considered in terms of vegetable-fiber cloths, they are applicable to the newer materials, such as rayon-staple cloths, to the same degree.

The levelling action of soap, judiciously applied in various fields of dyeing, has proved valuable in numerous ways. In both dyeing and printing, the wetting powers of soap have been put to good use in attaining greater penetration of the yarns and fabrics by the dyes and printing colors employed.

Brightening and clearing of colors in dyeing and printing always has been one of the chief objectives of soaping. It was first used for clearing madder-dyed prints by Koechlin in 1904, and improvement has been gradual but enduring.

SOAPING IN DYEING. In the production of madder and Turkey reds, it was found that brightening and clearing action of soap liquors was due, first, to the solvent action of the soap on impurities in the color-lake and, second, to the fact that some of the fatty matter of the soap united with the color-lake to give a much faster color to light and washing than would be obtained without soaping. Later researches on the constitution of alizarine verified fatty matter to be an essential constituent of the bright and fast colors produced.

The repeated preparation of the cloth in Turkey-red oil prior to production of the Turkey-red color in dyeing is known as oil mordanting. This is based on the fact that the fatty matter unites with the dyestuff in conjunction with the metallic mordant to give a color lake which is superior in every respect to that which would be formed without the fatty matter.

In brightening the faster types of dyed goods, soaping is an essential part of the process. Particularly in dark shades

(Continued on page 220)

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Finishing-Range DRIVES Coordinated in Numerous Ways

HIGHLIGHTS: *Many factors involved in selection of drives—Both a.c. constant and adjustable types as well as d.c. brush-shifting and turbine-electric types are widely used—Five methods of coordinating drive electrically are preserved.*

By R. B. MOORE
Textile Application Engineer
General Electric Co.

THE VARIETY of electrical adjustable-speed drives and coordination equipment available for textile finishing ranges makes an inventory of the most successful and widely used types in order. In view of the trend toward more extensive range operations in cotton finishing and the new problems encountered in processing of synthetics, guidance in selecting drives to meet specific requirements has become particularly important.

By range is meant the arrangement of two or more cloth finishing machines, or elements of machines, to operate in tandem with a common length of fabric passing without interruption through each in succession. Among the machines commonly operated in range—in a variety of combinations—are washers, dryers, tenters, soapers, mangles, pads, dye-units, saturators, recuperators, calenders, batchers, squeezers, folders, and pilers.

Over a period of years, the finishing industry has come to recognize the advantages of range operation in speeding production, improving quality of products, eliminating handling between operations, saving of manhours and floor space, and generally lowering costs.

BASIC REQUIREMENTS. In selecting the proper drive for best overall results, there are two basic requirements which must be satisfied regardless of the type of drive used:

1. The drive must be capable of covering the band of speeds needed in finishing any type and weight of fabric for which the range is intended.
2. The individual machine drives must be accurately coordinated to insure proper relative speeds and fabric tension conditions at every point along the entire range.

The two main considerations in deciding on a range drive are:

1. What fundamental type of drive will be used?
2. What type of control will be used for coordinating the individual machine drives?

Although there are a number of ways of driving ranges, this article deals with the types of drives in which individual motors are used to drive various elements of the range. It deals with the four types of electrical drives most successful and widely used, two coming under the direct-current category and two under alternating current. Under d.c. are the constant voltage and adjustable-voltage types, and under a.c. are the brush-shifting type BTA and the turbine-electric.

CONSTANT VOLTAGE (D. C.). Fig. 1 illustrates the equipment and connections for a constant-voltage d.c. drive. As the name indicates, there must be available a source of constant-voltage

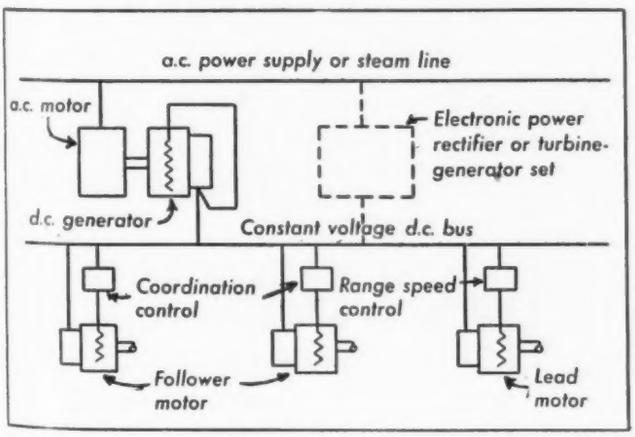

Fig. 1. Constant-voltage direct-current drive shown uses an a.c. to d.c. motor-generator set.

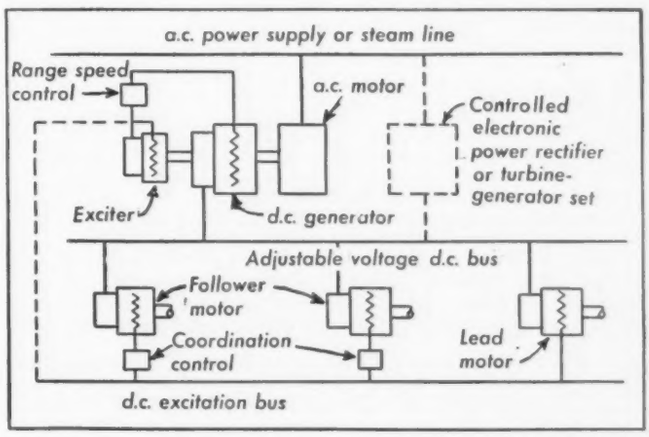

Fig. 2. Above, equipment and connections necessary for the adjustable-voltage type of drive.

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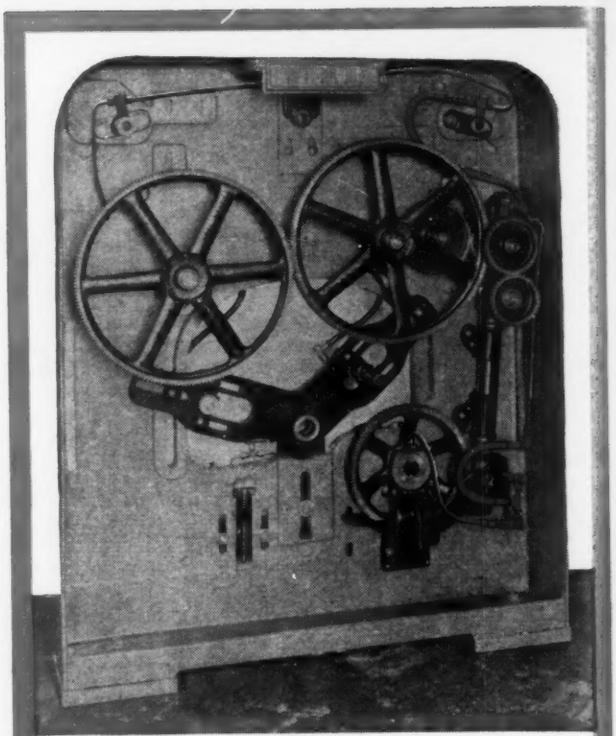
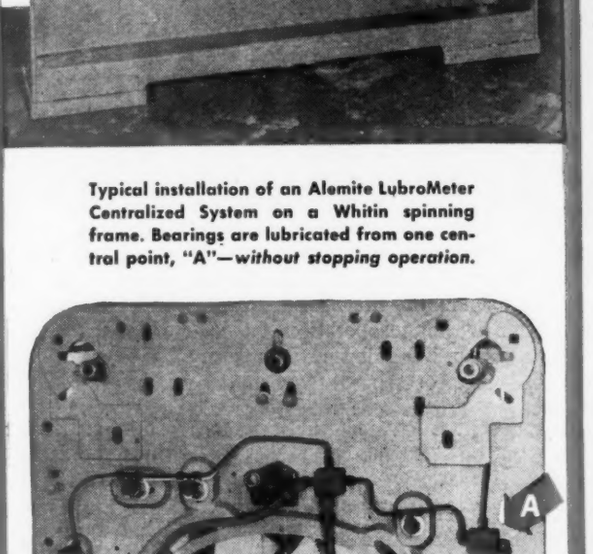
For complete information, consult the nearest Alemite distributor, or write to Alemite, 1888 Diversey Parkway, Chicago 14, Ill.



Typical installation of an Alemite LubroMeter Centralized System on a Whitin spinning frame. Bearings are lubricated from one central point, "A"—*without stopping operation.*



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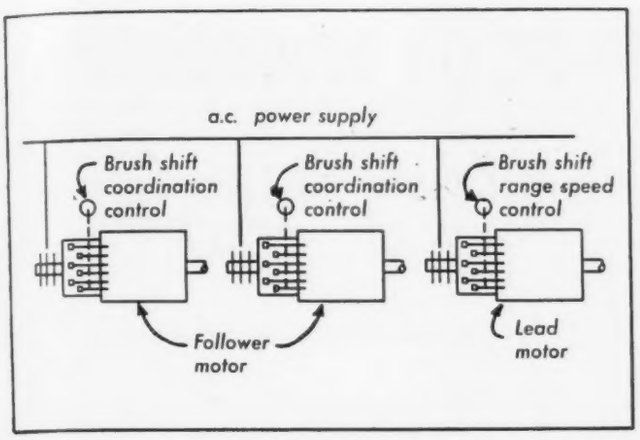


Fig. 3. Diagram illustrates that no conversion equipment is needed with this BTA motor-range drive.

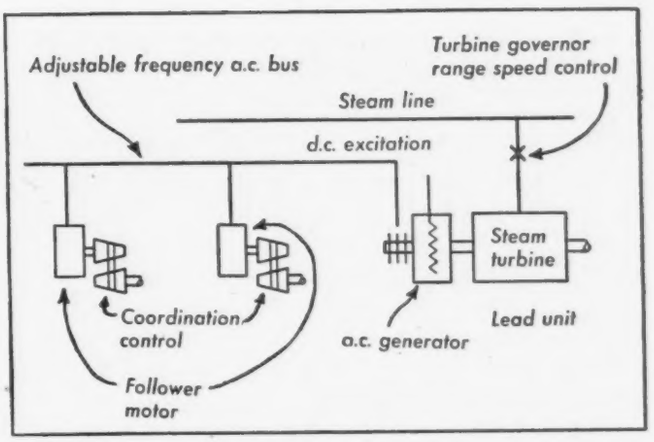


Fig. 4. In this range drive, the turbine powers the lead unit as well as drives the a.c. generator.

direct-current power in sufficient quantity to drive the entire range. This direct-current power has been generally supplied from motor-generator sets, as shown in Fig. 1; but some plants have used turbine-generator sets or mercury-arc power rectifiers. The latter type of conversion equipment is expected to become more widely used in the near future.

Each of the range motors is connected to the constant voltage bus through suitable starting control. Individual controllers or a common controller may be used for all the motors, depending on the degree of flexibility desired. Motors which on occasion are to be removed from range and operated independently should have their own individual controllers.

Speed control on the motors is obtained by adjustment of the shunt field excitation. Several schemes of excitation control will be described later in this article. This type of drive is suitable for a maximum of 4/1 speed range in standard designs. Wider speed ranges can be obtained, but the motor designs are special; and, of course, there is the factor of additional cost to be considered. Speeds below basic speed, or minimum rated speed, can be obtained by means of series armature resistors; but efficiency and speed regulation is very poor under these conditions. Therefore, speeds below basic speed are not commonly used except intermittently for setting-up or threading-in operations.

In contrast to the three other types of drives described in this article, these adjustable-speed, constant-voltage motors inherently have a constant horsepower characteristic over their normal speed ranges. Therefore, ample starting torque and slow-speed torque is available for loads requiring more torque at low speed than at high speed. Because of this characteristic, these motors have a larger physical size and are more expensive than constant-torque motors having the same horsepower ratings at the same maximum speeds.

In comparison to control for the other types of drives, the constant-voltage direct-current control is the most expensive. This is even more pronounced when slow acceleration to basic speed is desired, for a large number of armature accelerating steps are required.

(Continued on page 226)

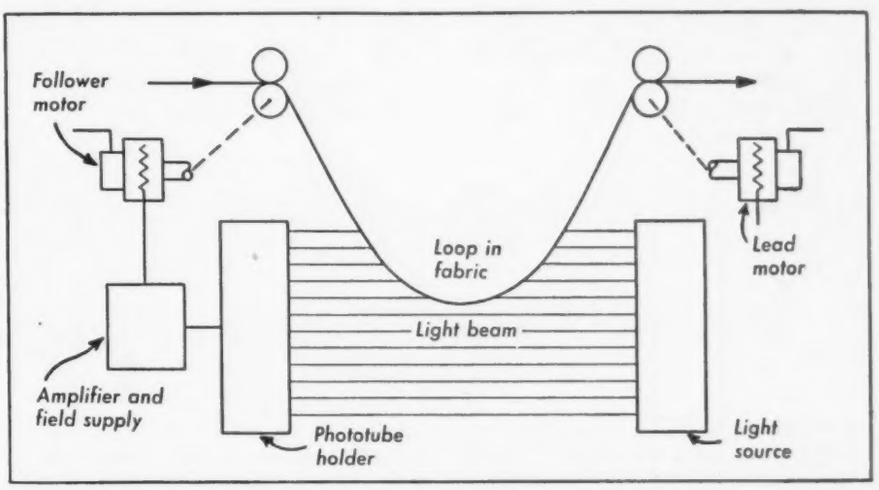


Fig. 5. The loop control, although similar to a dancer-roll control, is stepless, eliminates the dancer-roll mechanism, and uses minimum fabric tension.

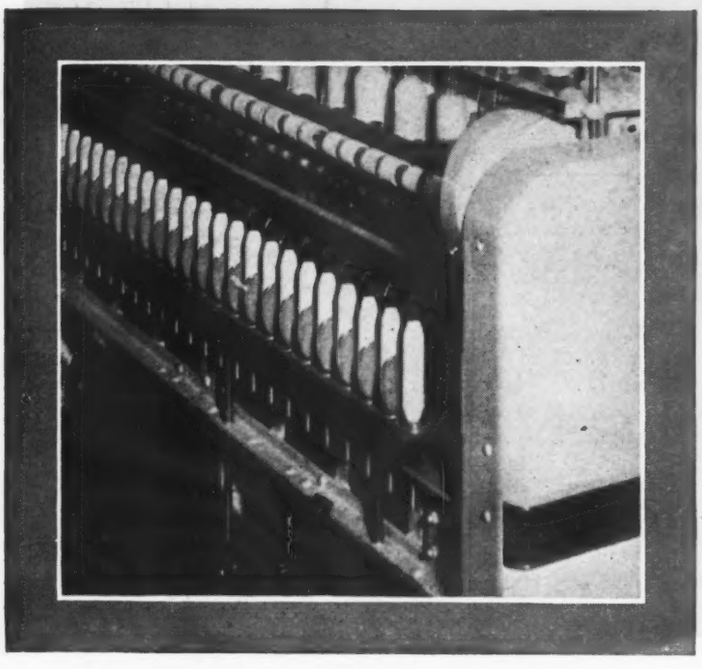
TABLE I—Various Coordination Controls

Type of Range Drive	Type of Coordination Control					
	Dancer Roll	Photo. Loop	Speed Reg.	Tens. Reg.	Current Reg.	Soft Motor
Adj. Volt. a.c.	XX	XX	XX	XX	XX	X
Const. Volt. a.c.	XX	XX	X	X	—	—
Type BTA. a.c.	XX	—	—	—	—	—
Turb. Elec. a.c.	XX	—	—	—	—	X

XX—Very good. X—Good. —Not recommended.

THESE SHOULD BE YOUR SPINDLE OIL REQUIREMENTS

And they're plenty tough



1. ***High*** **lubricity to cut down wear.**
2. ***Low*** **viscosity,** ***high*** **film strength.**
3. ***Low*** **gum-forming tendency.**
4. ***High*** **protection against rust.**
5. ***Low*** **volatility to avoid "misting."**

HOW SHELL PREPARES TEXTILIS OILS FOR SPINDLES

And we're mighty proud of their performance

Lubricity is, of course, the primary quality of the oil. It's doubly important with high-speed spindles. Shell employs highly scientific methods of selecting crude oil stocks—only those yielding highest lubricity are used.

Viscosity properties are most carefully watched in the refining stage. These oils come from a rather narrow "cut" in the distillation scale. Shell Textilis Oils have low viscosity to reduce drag in starting and running, as well as sufficient film strength to prevent metal-to-metal contact.

Gum-Forming is evidence that an oil oxidizes easily. Shell removes all unstable compounds from spindle oils by means of a solvent-extraction process. Result: Cleaner blades and bolsters, better oil circulation.

Rust Prevention is a "must" quality of an oil for precision-built spindle frames. Shell fortifies Textilis Oils with a special rust preventive that gives it a metal-wetting ability much higher than that of water—means freedom from rusting worries even in the humid atmosphere of the spinning department.

Volatility is also controlled by extra care in crude oil selection and refining. With low volatility, there is little tendency for Textilis oil to "mist" or vaporize, even though it is virtually churned by the whizzing speed of the spindle block.

* * *

The Shell Lubrication Engineer will gladly give you specific advice on the lubrication of any type of spinning frame, as well as on other mill equipment.

For informative literature about textile machine lubrication, write to Shell Oil Company, Incorporated, 50 West 50th St., New York 20, N. Y., or 100 Bush St., San Francisco 6, California.

SHELL TEXTILE LUBRICANTS

SHELL

TEXTILE Equipment NEWS

High-Speed Horizontal Warper Built by Sipp

Initial installations of Sipp-Eastwood's new horizontal warper, featuring high-speed operation, light-metal construction, and a signal-light control, have been made at Cadillac Warping & Sizing Co., Paterson, N. J. The warper is operating at speeds up to 500 yd. per min. from an inside-sheet creel.

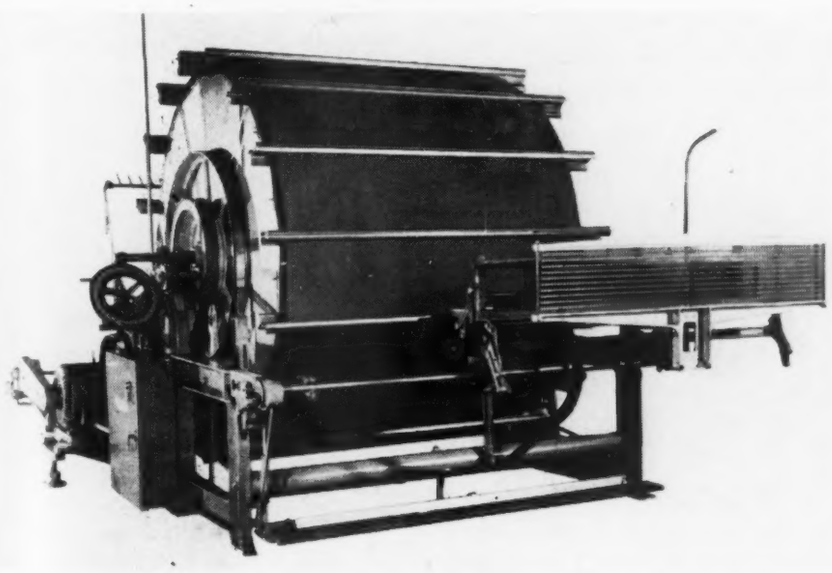
The warper starts at a low speed and at approximately 15-sec. intervals changes speeds three times, for a total of four operating speeds. A brake on each side of the creel, plus one on the motor, ensure a quick stop when an end breaks or the yardage clock calls for a stop. The clock, a 2,000-yd. indicator, is equipped with contactors which can be set to stop the machine at desired intervals; and when such a stop is made a dual-colored lamp signals the cause of the stop. Treadles are used to jog or start the machine. A silent chain drives the warper and another the beaming take-up.

Magnesium extrusions are utilized in the construction to reduce weight, particularly of the reel. Elevation arms, needed at the start of warping, are all controlled from a knob near the warper hub. Spokes are riveted to the face rails.

The compression board is mounted on an assembly with a cross-reed, a specially built static eliminator, and a three-bar splitting stand. A neon lamp working in conjunction with the static eliminator indicates the amount of static present in the yarn. Leases can be quickly inserted.

The beaming mechanism is driven through a positive dog clutch and will accommodate a beam up to 28 in. in diameter. Normal beaming speed of 60 yd. per min. is also achieved through a four-speed automatic step-up.

Sipp's new 1000-end, inside-sheet, over-end creel (not illustrated) can be used with the horizontal warper or with cotton-type warping. The new creel eliminates tying around the post, an objectionable feature of older models.



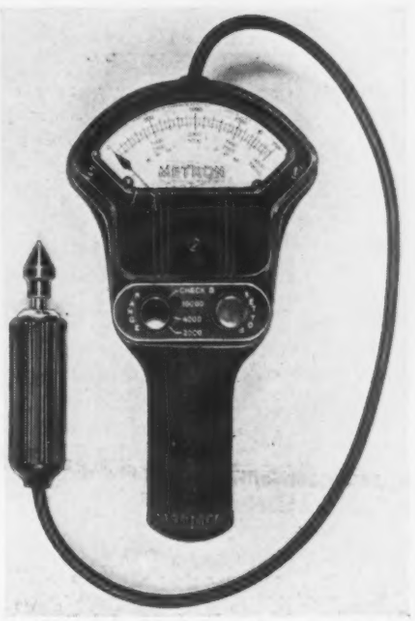
Horizontal warper achieves high speed and uses four-step motor. (Sipp)

Electric Tachometer Has Wide R.P.M. Range

An electric hand tachometer which can be operated by a battery or by an a.c. connection is being manufactured by Metron Instrument Co., Denver 7, Colo. Attachments are available for adapting the tachometer to cover a speed range of 10 to 10,000 r.p.m. or f.p.m.

The Metron Type 25A tachometer consists of two units: the head, which is placed in contact with the rotating shaft; and the indicating unit to which the head is connected by a flexible electric-cable.

The shaft in the head rotates in response to contact with a positively rotating shaft and operates a set of contacts through a straight-line-motion cam mechanism. The motion produced by this cam is approximately ⅛ in. The cam is self-lubricating to minimize wear of these parts.



In the battery model, a 1-in. flashlight cell is used for power. (Metron)

The indicating unit is provided with a reactance circuit in conjunction with a metering circuit. When the reactance circuit is energized through the contacts in the head unit, the metering circuit is deflected in proportion to the speed of the head-unit shaft. This deflection is indicated on the r.p.m. dial.

Special precautions have been taken for checking the power source and compensating for irregularities.

Numbering Machine Has Automatic Inking

A numbering machine which prints numbers on piece tickets, tags, labels, crates, etc. is being manufactured by American Numbering Machine Co., Atlantic and Shepherd Aves., Brooklyn,

Other models of the numbering machine are mounted on stands. (American Numbering)

N. Y. The "Speed Set" machine is operated by means of levers geared directly to the printing wheels so that the movement of the levers forward or backward changes the printing characters.

An index pointer attached to each of the levers shows the operator the printing combination on the index plate. A steel gage plate is provided to aid the operator in determining where the impression will be made, and a felt pad is used for automatically inking the printing characters.

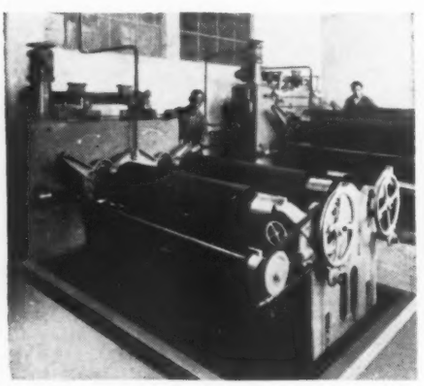
New Dyeing Machine Puts No Tension on Cloth

A full-width dyeing machine which ensures tension-free movement of a fabric through the dye bath has been announced by Sulzer Bros., Ltd., 50 Church St., New York, N. Y.

The machine is being built in two models. In the smaller model the fabric is passed through the bath straight from one roll to another. In the larger machine a conveying roll is mounted between the two winding rollers to aid the passage of the fabric through the dye bath. Two float rolls press lightly against the winding rolls to ensure a positive grip on the fabric.

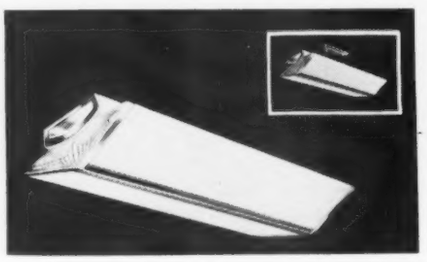
A self-contained hydraulic drive is used on each of the models, and the larger machine is equipped with a hydraulic raising device for raising and lowering the dye vat, whether it is empty or full. Since the amount of dye liquor is kept as small as possible in the smaller machine, no lifting device is needed.

Guiding and spreading rolls are suspended from lateral supports and can be adjusted to handle fabrics requiring special treatment. The vat itself can be easily cleaned.



The Sulzer dyeing machines are built under the patented Mettler system. A full-width machine is shown here. (Sulzer)

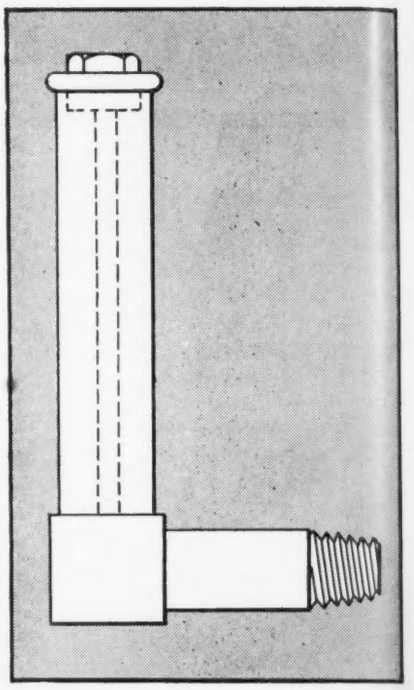
Glareless Light Obtained by Diffusion



Lighting accessories constructed of steel and finished with aluminum and baked enamel in capacities for two or four lights are available from Mitchell Mfg. Co., 2525 Clybourn Ave., Chicago 14, Ill. Light is diffused through prismatic glass panels which are said to eliminate all glare. (Mitchell)

Efficiency of Coupling Increases With Pressure

A coupling designed for use on hose or other lines operating under pressure has been announced by the Roylyn Mechanical Laboratory, Los Angeles, Calif. Based on the inclined-plane-and-wheel principle, the coupling employs three major parts: the cam ring, ball cage, and nipple. When the cam collar is rotated, steel balls are forced inward into a groove in the nipple. This action forces the halves together. The gasket retained in the ball cage provides a positive seal against dirt, as well as being the separating spring-force necessary to the operation of the lock. A slight shoulder on the cam assures a positive lock. Application of more pressure tightens the shoulder, and only the cam collar can unlock it.



Straight gages are also available for applications unsuitable for the elbow type. (Oil-Rite)

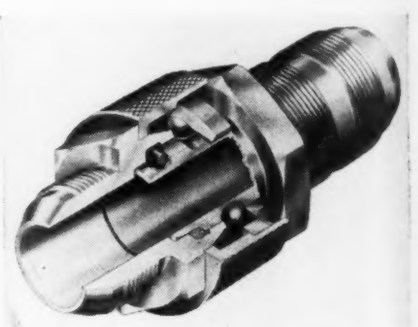
Oil Gage Has Unbreakable Sight

Oil gages made with unbreakable plastic sights which provide good visibility are being manufactured by Oil-Rite Corp., Milwaukee, Wis. The gage body is made of brass, and the plastic sight is supported by a central stem and a top cap.

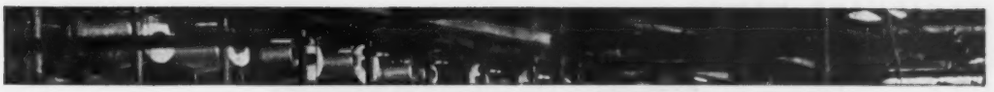
The gages are available in several sizes and construction. They can be taken apart for cleaning.

Small Machine Parts Welded With Tweezer Tips

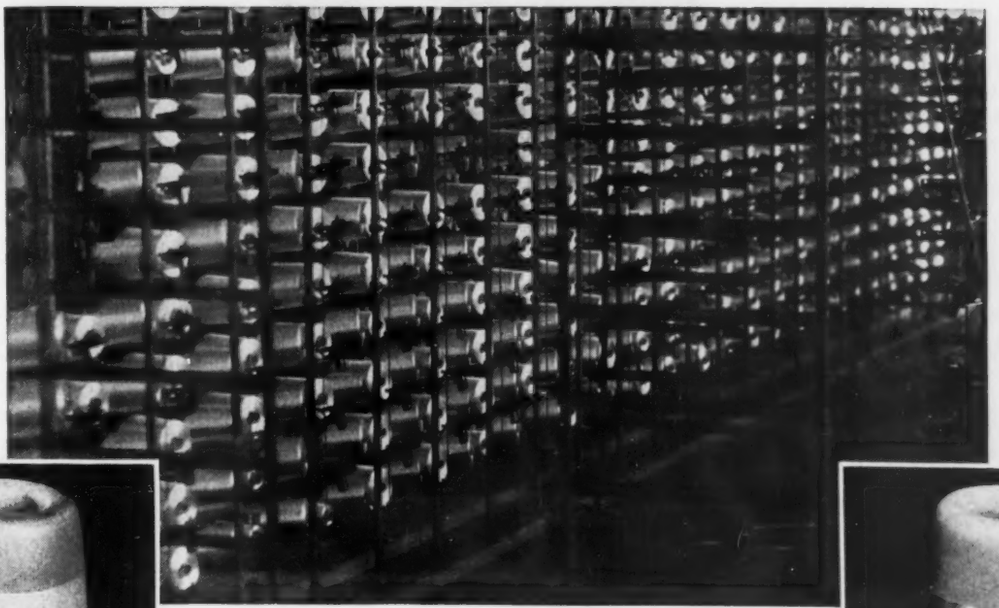
A low-voltage, spot-welding machine equipped with tweezer tips for holding and welding small parts has been an-



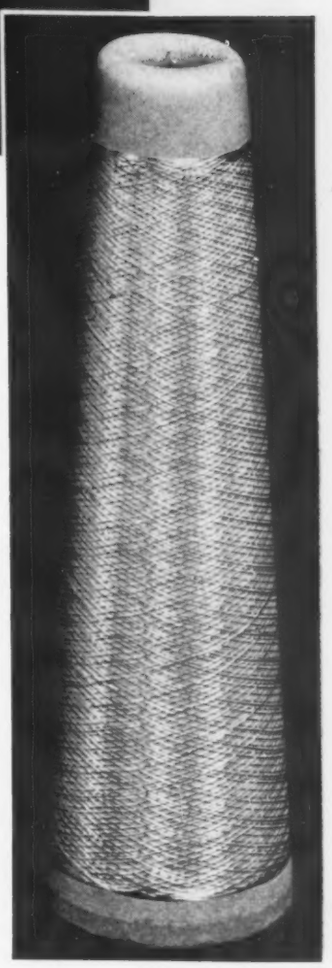
Tests made on the alloy-steel model showed a temperature-operating range from minus 65°F. to plus 300°F. (Roylyn)



Magazine Creeling — SEVERE TEST !



Hundreds of transfers taking place every hour—hour after hour, day after day—this is the supreme test of uniformity, in yarn, in the cone and in the packaging. No drag, no filament breaks and complete delivery to the last turn is in a large measure due to the SONOCO Velvet Banded Cone—developed especially for magazine creeling of low twist rayon yarn.



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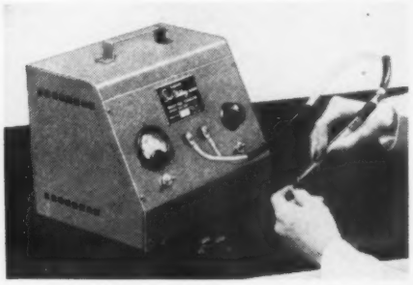
nounced by Tweezer-Weld Corp., 280 Plane St., Newark 2, N. J. The tweezer welder is applicable for parts measuring 0.0005 to 0.125 in. in thickness or diameter.

Because of the low voltage used by the machine, the tweezers may be held in the hand while welding is done. They will not heat up during continuous use. Several adjustments and auxiliaries increase the versatility of the machine.

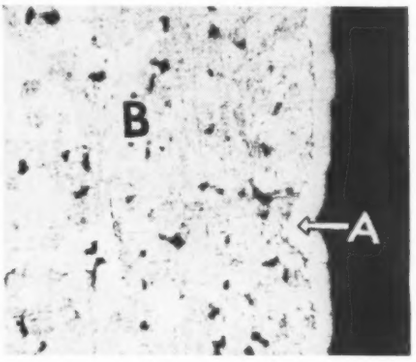


Parts as small as 0.0005 in. may be welded with the tweezers. (Tweezer-Weld)

Inside of Pipe Coated With Nickel

Nickel-plated pipe for use in processing in which corrosion is undesirable is being made by Bart Mfg. Co., Inc., 227 Main St., Belleville 9, N. J. A coat of nickel from 0.005 to 0.100 in. in thickness is deposited on the inside of the pipe by electrolysis.

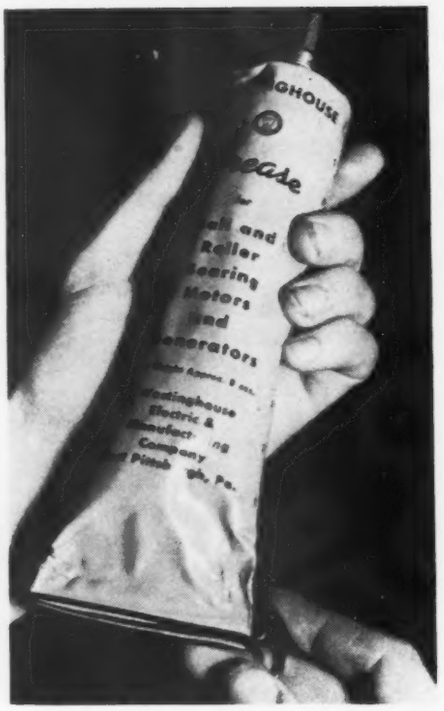
The process is said to produce a pore-free nickel surface completely adherent to the base metal which composes the body of the pipe.



In this photomicrograph A represents the nickel deposit on the inside of the pipe and B represents the base metal. (Bart)

Collapsible Tube Dispenses Lubricant

A grease for ball- and roller-bearing motors, said to be resistant to oxidizing, caking, and separating, has been announced by Westinghouse Electric Corp., 306 Fourth Ave., Pittsburgh 30, Pa. The lubricant is recommended for use at temperatures ranging from 13° to 176° F. and at speeds up to 3600 r.p.m.



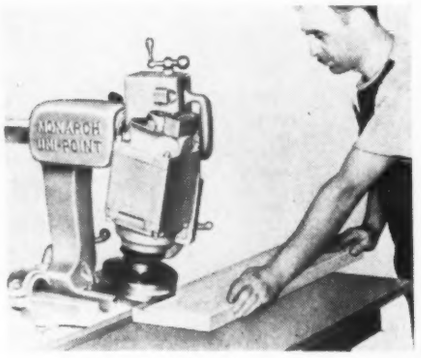
The tube holds approximately 8 oz. of the lubricant. (Westinghouse)

A collapsible tube, with a nasal spout which fits into a ⅛-in. grease hole, is used as a container for the grease. A key attached to the bottom of the tube is used to wind the bottom of the tube upward and exert pressure to force out the lubricant.

Portable Wood Saw Reduces Power-Saw Time

A lightweight, portable wood saw which can be adjusted for a bevel, miter, or compound-miter cut is being manufactured by American Saw Mill Machinery Co., Hackettstown, N. J. The saw is made of magnesium, and the carrying frame and 1½-h.p. motor weigh approximately 200 lb.

The saw has a capacity for a 3 x 16-in. crosscut and a 20½-in.-wide rip. A saving of 25% or more of the usual power-saw time is said to be effected.



The 12-in. radial wood saw is equipped with attachments for making a variety of cuts. (American Saw)

Loom Picker Stick Made of Laminated Plastic

A loom picker stick which will last several times as long as a standard hickory stick has been announced by the E. H. Jacobs Mfg. Corp., Charlotte, N. C., and The Formica Insulation Co., Cincinnati, Ohio. The stick is made of laminated plastic, and the company states that in certain instances its service life was 12 times that of a hickory stick. The new picker stick is made by Jacobs and sold under the trademark "Plyweld, a Pregwood Product." Although the new product costs more than a wooden stick, it is said that its lasting quality makes its use economical.

This stick operated 24 hours a day for 16 months, and outwore 16 hickory sticks. (Jacobs)

Optical Instrument Aids Fabric Inspection

An optical instrument for measuring and comparing small areas of fabrics for construction, finish, etc. has been announced by the Ray Control Co., Pasadena, Calif. It is described as a six-power optical system with six selectable scales.

The instrument, known as the Multi-Scale Monocular, is 2½ in. high and has a diameter of 2¼ in. The circular field of view is 1 in. in diameter and is automatically in focus when the instrument stands on its base. The measuring scale desired may be selected by turning the outer rim of the eye cap.

You can't afford to mumble in the modern market

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Dyes & Chemicals — PRODUCTS & PROCESSES

Chlorine Source

PITTCHLOR; Columbia Chemical Div., Pittsburgh Plate Glass Co., Pittsbugh, Pa.

A new high-test calcium hypochlorite, containing a minimum of 70% available chlorine, is now available for civilian uses, according to announcement by the Columbia Chemical Div., Pittsburgh Plate Glass Co. Now marketed under the trade name "Pittchlor," the product previously had been requisitioned by the armed forces in very large quantities as a bleach, germicide, and disinfectant. It also found wide usuage in shrink-resistance treatment of military woolen socks.

Low equipment investment and depreciation costs are claimed as important factors favoring the use of Pittchlor. Any type of chlorination can be employed: pre-, post-, split-, or super-chlorination. For continuous treatment, it can be used with dry-feeding devices, or it can be dissolved in water and fed through a solution feeder.

Fugitive Tints Developed for Nylon

The United States Testing Co., Inc., states it has succeeded in developing a line of fugitive tints for use on nylon. The tinting of this fiber has always been hazardous, due to the necessity of subjecting the yarn to high temperatures and steam pressures in the preboarding operation.

The following seven colors are available in the Certified water-soluble type: red, yellow, blue, orange, green, canary, lavender.

The following four colors are available in the Nylon oil-soluble type: red, yellow, blue, green.

Rayon Is Stabilized Without Preshrinking

With a new process developed by Sylvania Industrial Corp., knitted or woven rayon fabrics can be stabilized without preshrinking, according to the terms of a patent issued to the corporation in the name of James A. Clark, technologist in its Textile Finishes Div.

In the Clark process, the fabric is padded with an alkali-soluble, water-insoluble cellulose ether, such as Sylvania's Ceglin. Usually when strongly alkaline solutions are applied to viscose rayon, adverse swelling of the fabric occurs; but this process avoids that difficulty by carrying out the treatment at a temperature high enough so that the alkali in the solution does not have that effect.

After this treatment, the cellulose ether is coagulated on the cloth while the fabric is maintained at the desired dimensions. It forms a tough film around each fiber and tends to fix the position of the yarns and fibers in the fabric, and in that way stabilizes it to size.

Cloth-Coating Compound

VINYL BUTYRAL; Monsanto Chemical Co., St. Louis 4, Mo.

A newly developed cloth-coating compound of vinyl butyral that retains flexibility at below 0° F. has been announced by the Plastics Division of Monsanto Chemical Co.

Monsanto's vinyl butyral compound DB219, which has been tested under rigid Quartermaster Corps specifications, is found to combine the advantages of vinyl materials with full flexibility, comparable to rubber at 0° F. and colder.

Mill Maintenance — TO KEEP 'EM RUNNING

Standard Bearing Sizes Proposed by SKF

Motor and machine manufacturers are being urged to join a movement to standardize sizes of ball and roller bearings just as sizes of electric bulbs, tires, clothing, and shoes are standardized. This standardization, asserted S. F. Wollmar, SKF Industries, Inc., would reduce over-all costs, speed delivery of bearings to prime reconversion centers, aid young industries, and broaden American participation in world reconstruction.

"Ball and roller bearing manufacturers are now required to produce and stock as many as 40,000 sizes and makes of anti-friction bearings," Mr. Wollmar said. "Some of these products differ from others by the merest hair's breadth. If a uniform system of basic sizes were adopted, it might be possible to concentrate our capacity on turning out about 2,000 sizes of bearings. These would meet almost every industrial need without sacrifice of quality."

Mr. Wollmar said he was inviting reconsideration of standardized bearing dimensions now while memory of war-production experience is still fresh. Standards adopted as long ago as 25 years have been allowed to lapse, because of the recent spectacular expansion of the machinery industry.

"The war emphasized the rapidity with which standardized bearings could be produced as well as the production difficulties that constantly plagued the output of non-standard bearings," he pointed out.

Studies made by SKF engineers indicate that bearing standardization would result in speedier and more economical production and customer servicing for industry. The engineers declare that an international standards agreement already reached will simplify the problem of rushing bearings for such needed items as machine tools and other mechanical equipment to Britain, France, Belgium, Holland, and other members of the United Nations which use the same bearing standards.

Future foreign business of American manufacturers also would be helped by standardization, in Mr. Wollmar's opinion. Potential customers in foreign nations would be much more likely to buy American equipment now and in the future if they know they can obtain standard-size bearings and other parts with relative ease, instead of having to wait weeks and months for specially fabricated replacements, the SKF official declared.

Welcome!

We join with our customers in welcoming the return of many of their employees from military and other national service to the positions they held in offices and plants.

We share the natural pride your employers take in your service to the nation and the hopes they have for your future.

Our representatives have already had the pleasure of personally greeting many of you who have served . . . they look forward to renewing their associations with all of you.

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COLUMBIA CHEMICAL DIVISION
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Kinks AND SHORT-CUTS

A $25 SAVINGS BOND FOR YOUR IDEA

A $25 Savings Bond will be awarded each month for the most useful "kink" published in this department. This contest is open to all readers of TEXTILE WORLD, and there is no limit to the number of entries any one person may make.

Contributions must be received not later than the last day of the month to be eligible for the award for the second succeeding month. Items may pertain to production methods, mill engineering, safety, cutting costs, improving quality, speeding up production, in brief any little device, stunt, kink, or short-cut which you have tried out in your own mill and which you believe will be helpful to other mill men. Items should contain sufficient detail to permit other mill men to utilize the ideas in their own operations. Previously published material is not eligible for the award. Judges of the contest are the editors of TEXTILE WORLD.

TEXTILE WORLD shall have the right to publish any items submitted. Items which are accepted will be paid for at our regular rate for this type of matter with extra payment for appropriate sketches or photographs. The sketch you submit need not be a finished drawing.

In writing to this department, give your real name and address as evidence of good faith and to permit payment for items accepted. Please advise whether your name may be used with the kink.

Contributions should be addressed to: Technical Editor, TEXTILE WORLD, 330 West 42nd St., New York 18, N. Y.

★ **SAVINGS BOND PRIZE FOR MARCH**

(January Contest)

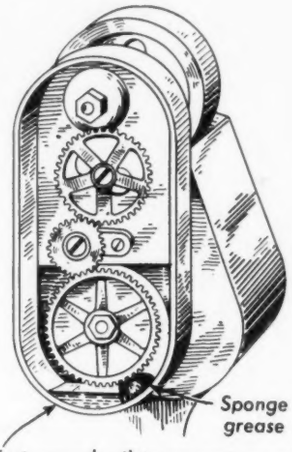
Spongy Grease Stops Loss of Gainer-Case Oil

Many mills have trouble with oil dripping from the gainer case of their No. 50 Universal winders. This free oil, of course, increases the difficulty of keeping the gear housing clean and also creates a slipping hazard for the operators.

The best remedy for this trouble is to use a lubricant, such as soda soap, of a spongy texture instead of liquid oil. Remove all the oil from the gainer case and thoroughly clean the case. Pour a small amount of new oil into the case to prevent the soda soap from sticking to the housing, and place a wad of the spongy grease about the size of a golf ball under the lower gear (the cam-shaft gear) in the gainer chain.

The grease is so thick that a small amount of it adheres to each tooth of the cam-shaft gear. As the teeth mesh with the teeth of the twin gear, some of the grease is transferred to the latter, which also transfers part of it to the top gear (spindle gear). When the teeth of all the gears are coated with lubricant, the cam-shaft gear will continue to roll the sponge grease against the housing but will take up no more of it until the teeth of the gear become dry.

We have tried 600 W grease, but it could not withstand the slinging action of the gears and lasted only two days. The spongy grease recommended here will last six months. (K-449) *J. S. Toth, Greensboro, N. C.*

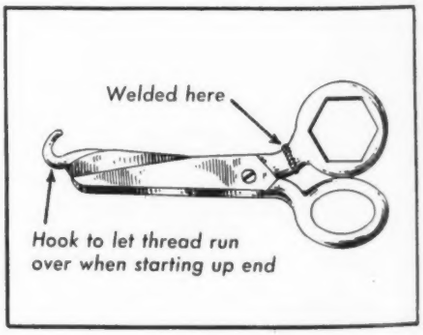


The spongy grease lubricates the gainer gear chain without slinging oil.

Wrench and Scissors Welded Into Single Tool

The equipment used by operators in our winding and redrawing department consists of a pair of scissors and a spindle-nut wrench. The scissors are used to clip tails of yarn when starting up ends and to straighten up tangled yarn. The wrench is used to loosen the spindle nut when it is too tight to remove by hand.

In order to eliminate one piece of equipment and the necessity for changing from one tool to another, the



The wrench welded to the scissors became one of the handles.

THAT GIVES A *sunbright quality* TO FABRIC COLORS

AMBERTEX is a heavy-bodied, free-flowing printing gum — that yields much higher color values than natural gum thickeners. Its cohesive properties provide razor sharp details. And its complete rinsibility leaves the cloth soft and the color bright.

AMBERTEX is equally suitable for *color printing* acetate, direct, vat, Rapidogen or Pharmasol, and Indigosol or Algosol colors by screen or roller machine, and *white discharge printing* on all types of fabrics.

Unlike ordinary textile gums which usually reduce color values, AMBERTEX actually increases the color yield. It is a smooth, grit-free, clear paste which is . . . *readily diluted* to an easy-flowing consistency with cold water . . . *highly resistant* to the thinning out actions of strong alkalis . . . *uniformly penetrating* to insure smooth, not mottled, colors. And its cohesive properties hold patterns to the exact proportion of the original engravings.

You'll find AMBERTEX highly economical. It absorbs 25% to 50% more water than ordinary textile gums. Compare it with your present gums. And add it to your regular vat thickeners to increase their flow, working properties and color yield. Write for full information — NOW!

National also produces: VAT GUM 36 for vat colors on cotton and rayon; AZO GUM for Rapidogen or Pharmasol, Indigosol or Algosol and Napthol colors; FIBERTEX for finishing sheer cottons and rayons; AMYLON, a cook-up type, to replace natural gums as a printing thickener; FABRIC ADHESIVE 584 to keep patterns in register and speed production.

Offices: 270 Madison Avenue, New York 16; Boston, Philadelphia, Chicago, Indianapolis, New Orleans, San Francisco and other cities. In Canada: Meredith, Simmons & Co., Ltd., Toronto. In Holland: Nationale Zetmeelindustrie, N. V., Veendam.

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STARCH PRODUCTS

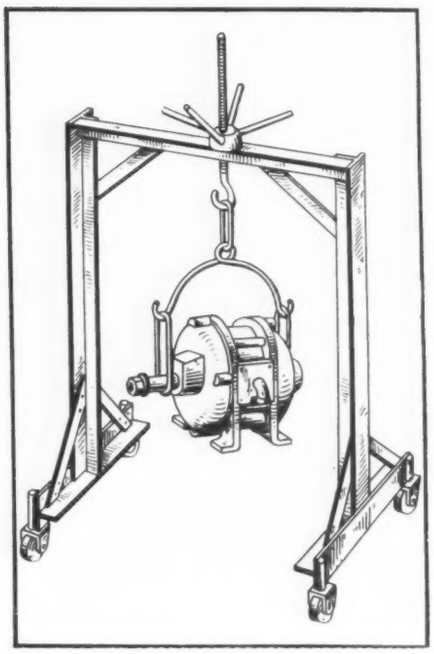
STARCHES — AND SPECIALTIES WITH EASILY DEMONSTRATED SUPERIORITY

KINKS & SHORT CUTS

(Continued from page 164)

wrench should be welded onto the scissors. Remove one handle of the scissors at a point behind the locking screw. Also remove the handle from the wrench and shape the handle stub to resemble the shaft of the scissor handle. Weld this stub to the scissors to replace the handle. (K-451) *J. E. Garrison, Burlington, N. C.*

Changing Motors Made Easy With Hoist



After securing the hooks, turn the handwheel to lift motor.

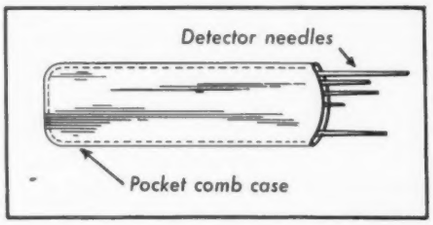
A hoist for lifting textile motors can be made from spare material found around any mill shop. The one shown in the accompanying sketch was devised and is being used by a mill.

The straddle frame is constructed of angle iron and is designed for straddling a motor on a floor or platform. The frame is about 4 ft. in height. At each corner of the base is a small caster for transporting a hoisted motor.

In the center of the overhead horizontal member of the frame is a hole through which a large lifting screw passes. At the top end of the screw is a handwheel which has the inside of its hub threaded to screw over the end of the lifting screw. The lower end of the screw is fashioned into a hook which engages the lifting yoke. At each end of the yoke is a hook which engages the housing of the motor or a metal ring placed over the motor end.

When the hooks of the lifting yoke are in place on a motor and the yoke is engaged by the lifting screw, a turn of the handwheel forces the lifting screw upward, raising the motor. (K-448) *American Mutual Magazine*

Comb Case Holds Detector Needles



A pocket-comb case is a convenient container for carrying filling-detector needles while working around a fixer's section. On looms having the nail-type needles, various lengths of needles are often encountered. As the case will hold ten or more needles, several different lengths of needles can be carried. (K-442)

Rope Wound on Beam Prevents Yarn Cutting

In packaging yarn on a perforated dye beam for warp dyeing, the yarn is frequently cut by a flaw on the dye beam or on the warper drum upon which the dye beam runs. Occasionally, the dye beam itself may be damaged. To prevent such damage to the yarn or dye beam, we wrap a ¼-in. cotton rope around the beam in the manner shown in the sketch.

One end of the rope is inserted through a perforation at the closed end of the dye beam and pulled through the inside cylinder to the open end of the beam. The other end of the rope is wrapped cork-screw fashion around the beam and inserted through a perforation at the open end. The two ends of the rope are pulled tight and tied inside the beam cylinder. (K-444) *C. D. Basinger, Concord, N. C.*

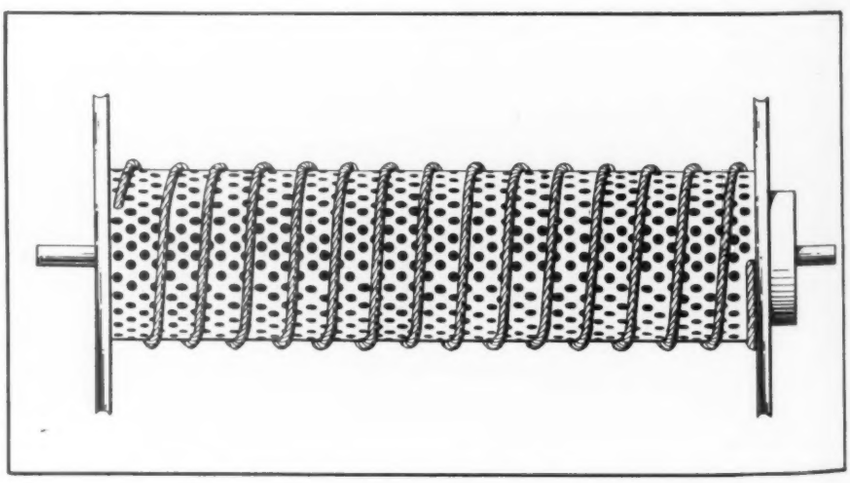
Grinding Shear Blades Made Easy With Drive

The revolving spiral blades of a Parks & Woolson automatic shear periodically become dull and must be sharpened. This is usually done by applying a mixture of emery dust and oil with a special leather applier and reversing the direction in which the spiral blades revolve. When the blades pass over the ledger blade, the emery mixture grinds the spirals from back to front.

In order to distribute evenly the abrasive action of the emery mixture, the spiral blades are oscillated horizontally across the ledger blade. Usually this oscillating is done by hand and requires the work of an extra man.

The drive illustrated in the accompanying sketch eliminates the necessity for an extra man and also assures a uniform speed of oscillation.

The operating drive belts are removed from the cylinder shaft (spiral-blade shaft), oscillating pulley, and flock-brush pulley. One belt, cut to the proper length and fastened, is placed over the oscillating pulley and over the flock-brush shaft on the inside of the



The rope provides protection for the yarn and the dye beam.

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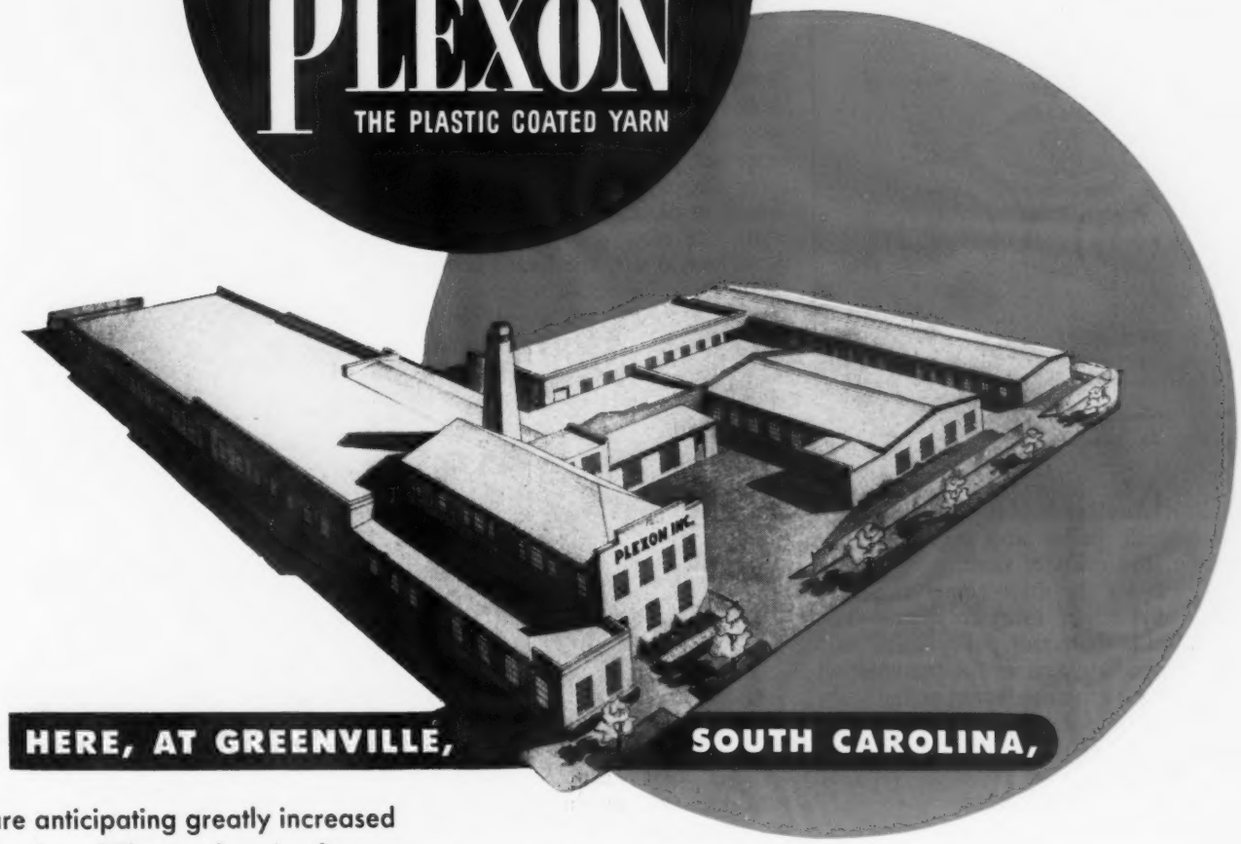
THE PLASTIC COATED YARN



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BEST OF ALL...

it weaves rapidly and successfully on all types of looms...and requires absolutely no change-over.

We hope to take care of you, soon, too!

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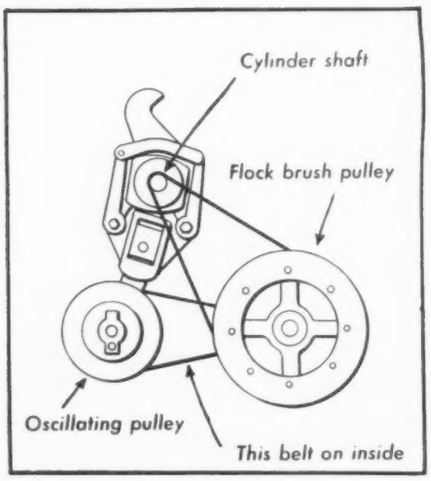
KINKS & SHORT CUTS

(Continued from page 166)



The flock-brush pulley may need to be pushed in slightly to accommodate oscillation.

pulley. Another belt is placed over the flock-brush pulley and over the head end of the cylinder shaft.

Power for the drive comes from the positively driven cylinder shaft. The flock-brush shaft and pulley serve only as intermediate devices for transmitting the power to the oscillating pulley. On our shear, this drive operates the spiral blades at 1750 r.p.m. and causes them to oscillate 36 times per min. *(K-398) Tony Poulin, Ware, Mass.*

Dividing Board Aids Slashing Small Warps

It is often necessary for us to size warps containing as few as 425 ends. Unless some provision is made for grouping the yarn, the ends have a tendency to curl around each other while drying and break at the splitting rods in front of the cylinder.

To avoid this condition, we use a dividing board at the back of the size box to separate the sheet of warp yarns into sections. The ends in each of these sections are held closely in a band so that curling is not possible.

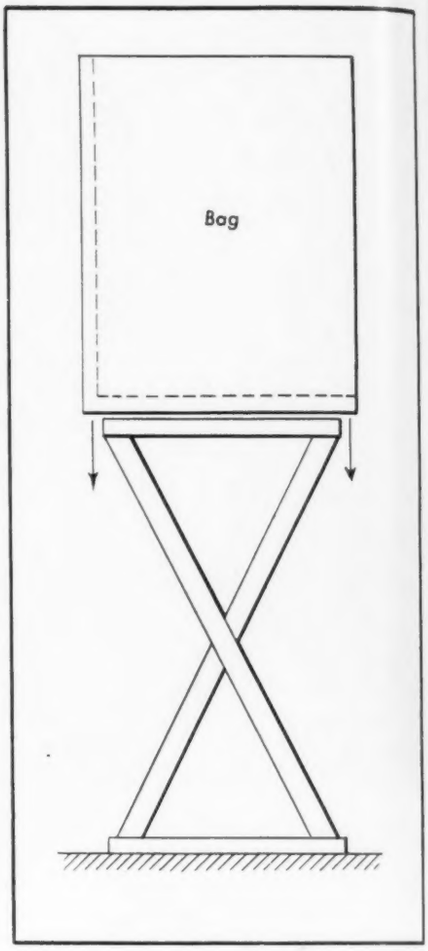
To make a splitting board similar to the one we use, cut six notches in the side of a 60-in. length of 3½-in. maple flooring. Round off and polish the notches so that yarn will pull across the board without hanging. Through a hole bored in each end of the flooring, pass a cord and tie the ends of the cord together. This cord, when looped over the selvage comb, will hold the board in place while the warp is being run.

When in use, the board is raised up through the sheet of warp yarns, splitting it into six bands about 3½ in. wide. The warp ends then occupy about 21 in. of space on the slasher cylinder instead of 54 in. The rear carrier roll should be removed, and the packings on the cylinders should be loosened somewhat to permit easier turning of the cylinder. *(K-432) I. S. Tuttle, Westbrook, Me.*

Bag-Turning Speeded With Wooden Frame

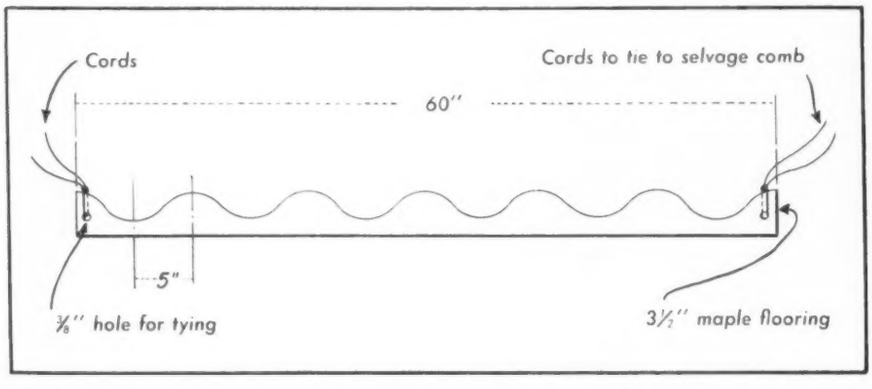
Cloth bags are sewed wrong-side out and then turned to place the seam on the inside. This bag-turning may be speeded up by using a wooden stand similar to the one shown in the accompanying sketch.

Using a wooden base to lie flat on the floor, fasten two 1x2-in. timbers to the base so that they extend upward, forming a cross for supporting each other. Join the ends of these timbers with a piece of 1x1-in. board. This board should be about three or four inches shorter than the width of the bags to be turned, and the height of the frame should be a few inches longer than the bags. The greatest height practical will increase the working comfort of the bag turner.



If the bags to be turned are short, the frame may be placed on a table.

When the bags are ready to be turned, place the bottom of a bag on the 1x1-in. crosspiece and pull the top of the bag downward over the crosspiece. The bag will be turned as the top is pulled toward the base of the cross. *(K. 435) Paul L. Geiringer, Newtonville, Mass.*



The bands of warp run over the dividing board, through the size box, and onto the cylinder.

Shipper Handle Aids Gillbox Operator

On many models of gillboxes used in worsted mills, the shipper for starting and stopping the machine is pushed on and off by the operator with his knee. We have found that this method of moving the shipper is clumsy for the operator, and to eliminate it we have installed shipper handles on all of our 50 gillboxes.

An iron rod about ½ in. in diameter is bent at one end to form a handle

HOW Faith in an Idea HELPS YOU PRODUCE FINER TEXTILES . . . LOWER PRODUCTION COSTS

OVER 10 YEARS AGO Dayton Rubber Scientists became obsessed with an idea. They believed they could compound natural and synthetic rubber for textile machinery parts . . . and that the performance of those parts would astonish the textile industry.

The plant shown here, located at Waynesville, N.C., symbolizes the correctness of their thinking. It was built to meet the demands for these rubber products just two years after they had been introduced commercially! Production facilities available in the home plant at Dayton, Ohio, were no longer adequate.

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It is the only plant in the world devoted exclusively to the manufacture of natural and synthetic rubber textile products . . . over 75 per cent of all the spindles in the United States are only 12 hours away by rail . . . it is surrounded by a number of outstanding textile engineering schools . . . these supplement our own extensive research departments . . . within the plant itself, product ideas are put right on the job, on spinning frames, looms, and test machines . . . unfailing sources of cold water are available, large quantities of which are needed in processing rubber . . . and finally cotton, which constitutes over 50 per cent of the raw material, is right at the doorstep.

These are all reasons why this plant can manufacture products that give remarkable performance . . . products that help produce finer textiles and lower production costs.

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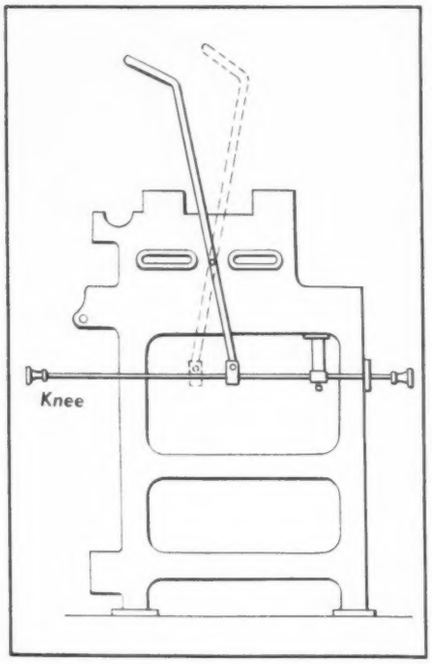
Dayton Rubber
THE MARK OF TECHNICAL EXCELLENCE IN NATURAL AND SYNTHETIC RUBBER

KINKS & SHORT CUTS
(Continued from page 168)

to extend upward over the machine. The other end of the rod is loosely fastened to the shipper rod. A hole is drilled through the rod near the center of its length, and a corresponding hole is drilled through the frame of the gillbox. By placing a stove bolt through both these holes and locking it to the gillbox frame with nuts, a pivot is created for moving the shipper back and forth by working the vertical handle. (K-447) Frederick Exley, Providence, R. I.

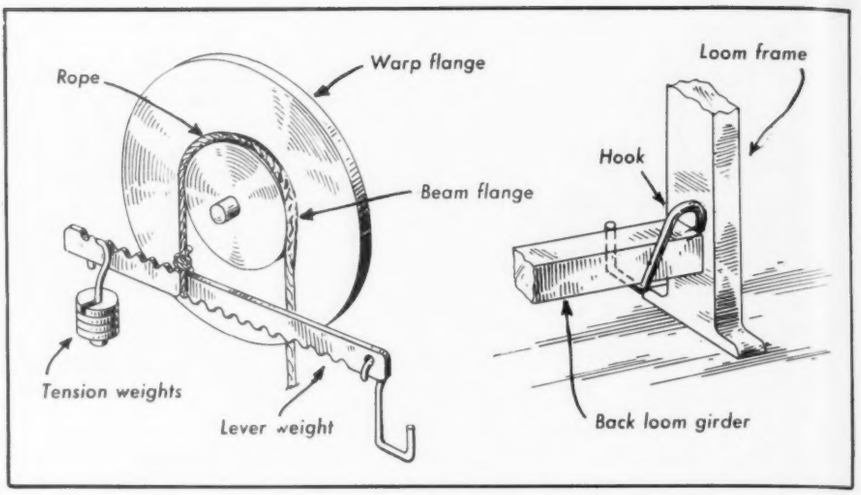


The upright shipper handle will work on gillboxes equipped with mechanical or electric stop motions.

Warp Tension Added By Using Girder Hook

Experimenting with new weaves recently, we found that the heavier weaves on longer-running lengths require more warp tension than our let-offs were capable of handling. Additional weight could be had by adding a lever on the opposite side from the let-off, but drilling lag holes in the concrete floor was not desirable. The problem was solved by fashioning a hook similar to the one shown in the sketch.

The hook was made from $\frac{5}{8}$-in. cold-rolled steel and bent in a twisted-S shape. One of the loops of the distorted S was fashioned into an open-side square, and the square was slid sidewise under the back loom girder and turned over so that hook was securely fastened. The rounded bend of the other end was left in this shape to allow the lever arm to be slid in place over this end of the hook. As many laps of rope as the warp flange will take can be made, and several hook weights can be placed on the hook suspended from the weight lever for extra tensioning. (K-441) H. E. Wenrich, Berwick, Pa.



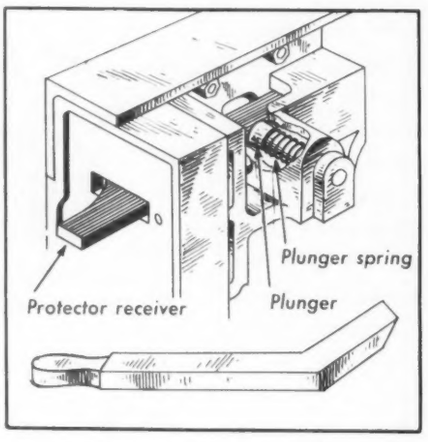
Additional warp tension can be obtained by circling the warp flange one or more times with the rope and by adding weight to the lever.

Tool Aids Removing Protector Receivers

A tool similar to the one illustrated in the accompanying sketch will save considerable time when it is necessary to remove or replace a protector receiver, or a related part, on a Crompton & Knowles W 3 loom.

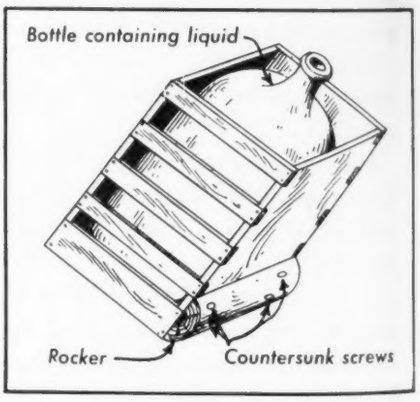
To construct such a tool, use a piece of flat iron or steel about 18 x $\frac{3}{4}$ x $\frac{1}{2}$ in. Heat and bend the iron to a 22½° angle about 3 in. from the end. This end should be ground to a sharp taper and the other rounded for a handle.

Use the tool as a pry bar resting on the shipper rod with the sharp end against the plunger end. This will force the spring and plunger back so that a collar with a setscrew may be used to hold the spring in a compressed condition. With the pressure relieved, it is an easy matter to remove the protector receivers. (K-450)



The end of the tool is inserted between the receiver and the plunger to compress the spring.

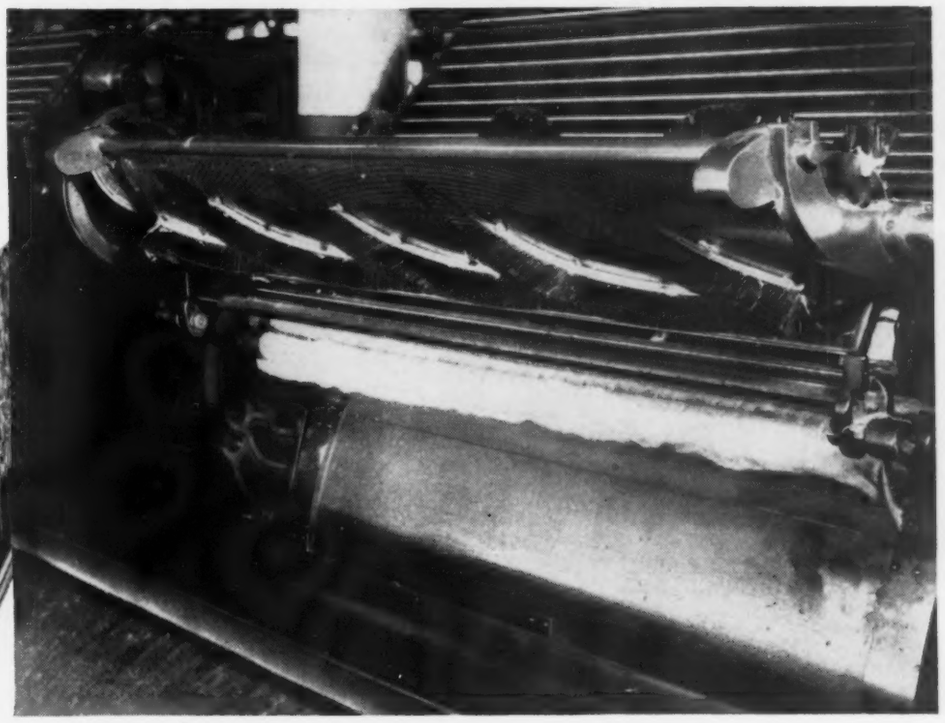
Pouring Liquids Aided by Rocker



Pouring liquids from large bottles can be made safer by providing the bottle container with a rocker, as shown in the sketch. A short length of round roller stock is cut lengthwise through the center, and one of the pieces is used for the rocker. Drill four holes in the piece so that the screwheads will be countersunk, and select screws of sufficient length to be screwed into the wood casing. Attach the rocker to one side and at the bottom of the bottle container.

PROVED PERFORMANCE

IN COTTON CARD BRUSHES



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GETTING THE MOST FROM WINDING

Information about winding designed to show improvements in winding equipment and new ideas in the winding operation

RATCHET FEED PAWL ARM ADJUSTER (No. 90 Winding Machine)

A new design of Ratchet Feed Pawl Arm Adjuster prevents any danger of the Adjuster becoming locked in front of the Pawl Arm Stop should the operator push in the Traverse Bar before setting the Bunch Builder.

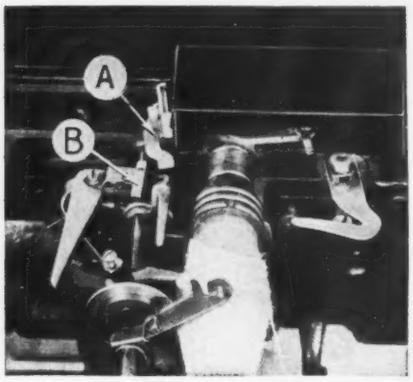

Fig. 1

Early models of the Bunch Builder Attachment (Fig. 1) used Arm Adjuster 90-1510 (A). When used with the now obsolete Pawl Arm Stop (B), it sometimes happened that, in starting the spindle, the forward motion of the Traverse Bar would bend the Stop as shown in Fig. 2. In order to unlock the adjuster, it was necessary to remove the Bunch Builder Cover and work the Ratchet to free the Adjuster.

A new type of Stop (C in Fig. 3) that is used as standard equipment today is much heavier than the old Stop and will not bend. Yet the possibility of the Adjuster (A) locking in front of the Stop still exists. Breakage of parts will be the result if the Adjuster is not freed before starting up again.

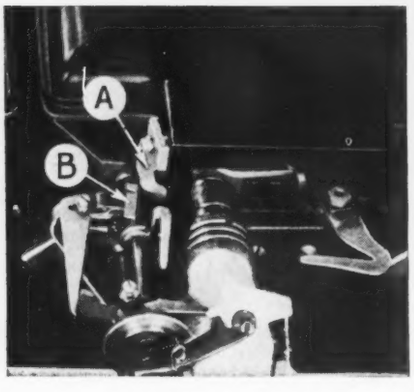

Fig. 2

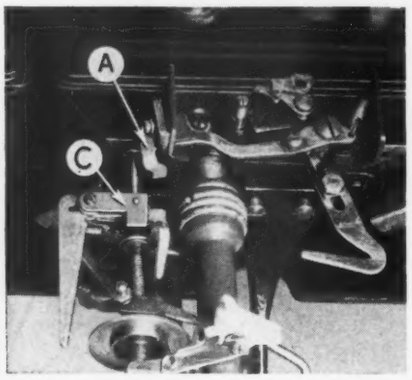

Fig. 3

However, the new Ratchet Feed Pawl Arm Adjuster 90-1510-7X (D in Fig. 4) eliminates the trouble completely. This adjuster is an assembly consisting of a Pawl which is pivoted on a Plate and is kept in position by a spring.

When the Bunch Builder has been set and the Traverse Bar is pushed inward, the Pawl is pressed to one side. As the Traverse Bar moves forward in starting, the spring returns the Pawl to its operating position, and the backward stroke of the Traverse Bar operates the Bunch Builder correctly.

With this Adjuster on the Bunch Builder, it is no longer necessary to be careful of the order in which the Bunch Builder is set and the Traverse Bar is pushed inward — thus saving time and eliminating the danger of breakage.

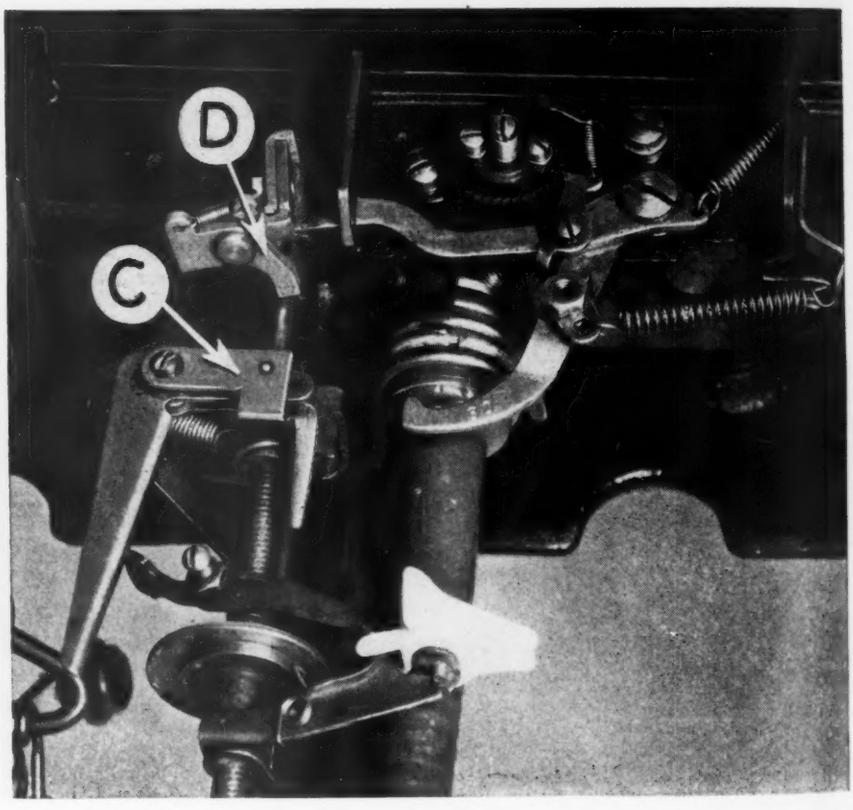

Fig. 4

*Reg. U. S. Pat. Off. January 1946

See our Catalog in TEXTILE WORLD YEARBOOK 23.5.14

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Pete & Bill

Getting Cooperation from Assistants

Is the good old bawling-out system better than temperate correction in getting improved work out of your subordinates?

I NOTICED, BILL, YOU HAD LITTLE TO SAY IN THE OVERSEERS' MEETING WHEN BOB BROUGHT OUT THAT SAMPLE OF BAD WORK YOUR DEPARTMENT WAS PASSING ON TO HIS.
BULLETIN
YEP-I'LL DO MY TALKING TO THAT YOUNG SNIP OF AN ASSISTANT WHO LET SUCH BAD WORK GET BY.
1
BEFORE YOU ROAST HIM, BILL, REMEMBER THAT THE BIG BOSS WAS PRETTY EASY WITH YOU THOUGH YOU'RE REALLY RESPONSIBLE FOR WHAT YOUR DEPARTMENT TURNS OUT. HE BELIEVES YOU GET COOPERATION WITH BRAINS, NOT TEMPER.
MY BRAINS WILL BE USED TO TELL OFF THAT GUY IN AS MANY WAYS AS POSSIBLE. YOU GOT TO BE TOUGH ON QUALITY PROBLEMS, PETE.
2
YOU'RE GETTING WORSE EVERY DAY, BILL. BLOW OFF STEAM SOMEWHERE ELSE. TALK SENSIBLY TO YOUR ASSISTANTS AND THEY'LL FIGHT YOUR BATTLES FOR YOU.
NUTS, PETE. YOU SOUND LIKE THE HOUSE-MOTHER IN A DAY NURSERY, NOT A MILL OVERSEER.
3
WOULD YOU BELIEVE DIFFERENT IF ALL OUR READERS WROTE IN TO TELL YOU THAT YOU'RE WRONG?
THEY NEVER WOULD, YOU SOFTY. THEY KNOW YOU HAVE TO TALK TURKEY. COME READERS TELL US SHOULD WE BAWL OUT AN OFFENDER OR FEED HIM CANDY?
4

Letters From Readers

Likes Christmas Giving

"The Annual Christmas Problem"
(Pete & Bill, Dec. 1945)

Dear Pete & Bill:

I have studied both sides of the question. Personally, if any one desires to give at Yuletide, and make a present to the boss, there should be no reasonable objection from any one. It shows the spirit of real friendship, and Bill should regard it in that way. It is often true that the worker, if he has a large family and big obligations to meet, may not be able to give at Christmas time, and he should not be pressed to do so.

Personally, I fall on the side of Christmas giving. (PB201)

Training Justified Only By Production

"Training for the Older Help"
(Pete & Bill, Aug. 1945)

Dear Pete & Bill:

Your discussion on the subject of "Training for the Older Help" was of interest to me because Pete has apparently contacted a mill that has worked out a way of building up morale and it is being reflected in an increase of production. Personally, I would like to know whether the mill he mentioned would be willing to swap notes on their training program with me. In planning any training it should be kept in mind that "Training for Training's Sake" is not justifiable. Training should be planned to meet definite production needs and then only is it justified.

I believe that Bill is like a lot of other supervisors in that he rather resents having his workers tested and sent to school. He feels that it is a reflection on his performance of the supervisor's function as a trainer. On the

other hand, if he can be shown how the coaching of the older workers can help them to take a new interest in their jobs that will improve production, I believe he would go along with Pete, as he does not like any decrease in production even if it is only 10%.

Most of the training of older workers should be in the nature of planned on-the-job coaching by their supervisors supplemented with occasional conferences on necessary subjects which can be handled better in groups. (PB106)

Let Them Give to the Needy

"The Annual Christmas Problem"
(Pete & Bill, Dec. 1945)

Dear Pete & Bill:

It is pleasant to have a delegation of workers come in the office with packages all done up in Christmas wrapping, and to open these packages and find a couple of nice white shirts, some ties, and other beautiful and useful gifts—that is, it is pleasant until you realize that some of the workers who contributed to the fund to buy these gifts were not really able to give anything and probably gave under pressure.

One foreman, whose department presented him with gifts every Christmas, suggested to the key workers that, while he appreciated the gesture, he would like to see them pick out some old lady or some worker who had had hard luck and use the money to make that person's Christmas a happier one. This plan worked fine. Maybe both Pete and Bill would enjoy their own Christmas better if they sponsored a plan similar to this. (PB202)

Favoritism Has No Place in Mill

"New Slant on Favoritism"
(Pete & Bill, Jan. 1946)

I insist that favoritism should not be shown between workers who stayed during the war period and those who returned after benefiting from war-plant wages. We must make an effort to keep brotherly love and good feeling uppermost in the plant so that production may continue on a high level. Order was Heaven's first law, so there should and must be order and cooperation between the management and workers in the plant. Without that production, so much needed, cannot be boosted.

Let's try to discourage any and all types of favoritism in the plant for the best interests of all concerned. (PB301)

Books of Interest

Shows Facts and Romance of Cotton Industry

COTTON MAGIC, by Mildred Gwin Barnwell, Clinton, S. C.; The Jacobs Press; 114 pages; $2.00.

This book meets the definite need for a simple, clearly expressed account of the basic processes in the manufacture of cotton-textile products. Mrs. Barnwell tells the story from the cotton boll to the sales counter of the department store. The author, who was for a number of years executive secretary of the Southern Combed Yarn Spinners Association, has outlined the essential mechanical steps in a cotton textile mill with a clarity that should allow the uninitiated to follow her with ease.

As a text for industrial courses in high schools, for veterans' training programs, and for the private student, this volume should prove a good introduction to the general subject.

Mrs. Barnwell, who is also the author of "Faces We See," has not been content merely to describe the processes of an industry, but, recognizing the human element, she gives the reader a realization that those who spin and weave are not just the custodians of machines but are also the builders of a culture and a way of life. The textile worker can use the book to find meaning in his daily task and purpose in the labor of his hands.

The book is bound in cotton cloth, has attractive end-papers and is effectively illustrated.

New Edition of Chemical Dictionary

HACKH'S CHEMICAL DICTIONARY—3rd Edition, by Julius Grant, M.Sc., Ph.D., F.R.I.C., London; the Blackiston Co., Philadelphia; 925 pages; $8.50.

A standard one-volume reference book to all modern chemistry, this book contains more than 57,000 entries, mostly encyclopedic in character, giving definitions of each in the light of new research findings, and current acceptations. It is sturdily bound for hard service. A feature of this dictionary is the numerous original tables of important data, diagrams, illustrations, and other aids to a clear understanding of the subject. The various chain reactions are illustrated by formulas, and the periodic chain is fully tabulated, including complete scientific data down to element 94. Nomenclature and spelling follow the system adopted by the American Chemical Society and British practices, with nomenclature recommended by the International Union of Chemistry identified by an asterisk.

A Manual on Control Instruments

INSTRUMENTS AND PROCESS CONTROL, by the Curriculum Library at Cornell University; N. Y. State Vocational & Practical Arts Assn., distributed by Delmar Publishers, Inc., Albany 6, N. Y.; 234 pages; $2.75.

This volume is a practical manual covering the function and application of control devices to various industrial processes. The book is well indexed and contains glossary of technical terms. There are numerous diagrams to clarify the application of the instruments. The following instrument manufacturers cooperated in furnishing illustrations and data: Taylor Instrument, Foxboro, Bristol, Brown Instrument, Fisher Governor, Fulton Sylphon, Mason-Neilan, Moore Products, and Tagliabue.

Other Publications

EXCESS PROFITS TAX RELIEF; The Cyclical Provisions, By John L. Snider, Harvard University Graduate School of Business Administration, Soldiers Field, Boston 63, Mass.; 30 pages; $1.50.

ASTM Proceedings of 47th Annual Meeting, Vol. 44, 1944 (Committee reports and technical papers); American Society for Testing Materials, 260 S. Broad St., Philadelphia 2; 1096 pages.

Index to ASTM Standards, December, 1944; American Society for Testing Materials, 260 S. Broad St., Philadelphia 2; 220 pages.

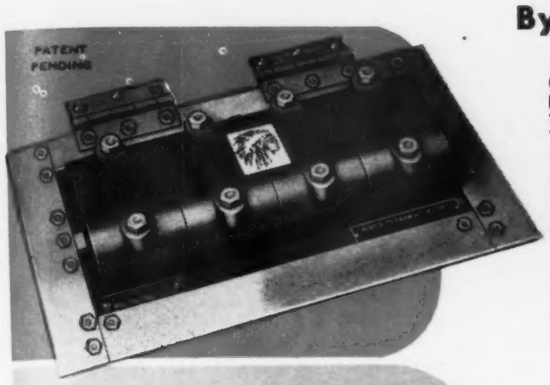
CIBA REVIEW, NO. 49, FLAX AND HEMP; Ciba Co., Inc., 627 Greenwich St., New York; 34 pages.

TAGS AND LABELS AS GUIDES TO SERVICE QUALITIES CLOTHING, by W. E. Coughlin; Good Housekeeping Institute, 57th St. at 8th Ave., New York 19, N. Y.; 22 pages.

WORLD TRADE ROUTES (publication of ship movements); The Journal of Commerce, 63 Park Row, New York 15; 8 pages; 25¢.

THE EFFICIENCY OF ERIEZ MAGNETIC PROTECTION PROVEN

By Wool, Cotton, Fibre and Waste Processors



SINCE the ERIEZ Heavy-Duty *Non-Electric* Textile Magnet was introduced, many plant superintendents and engineers verify that these permanently-powerful, compact magnetic plates are the most efficient, economical means of removing iron and steel trash from wool, cotton, fibre and waste processing systems. Returned questionnaires from ERIEZ Textile Magnet users in all textile centers give the following results percentagewise—

ON ELIMINATING MACHINERY DAMAGE: 40% say, "Since installing ERIEZ Magnets, machinery damage from iron and steel trash has been eliminated." 50% testify, "reduced 75% — 90%." 10% no answer.

ON ELIMINATING FIRES: 20% say, "Since installing ERIEZ, our fires have been eliminated." 30% reveal, "reduced 50—95%." (The other half of returns came from processors of wool and other non-combustible materials.)

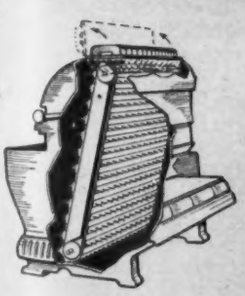
ON OPERATING EFFICIENCY: 50% of returns stated, "As installed at the present time, our ERIEZ Magnets are operating perfectly." Remaining 50% said, "satisfactorily."

When it's Magnetic Protection, See Eriez First

Below are shown the varieties of iron and steel trash pulled from the air lines of one large textile mill by their ERIEZ Non-Electric Permanent Magnets.

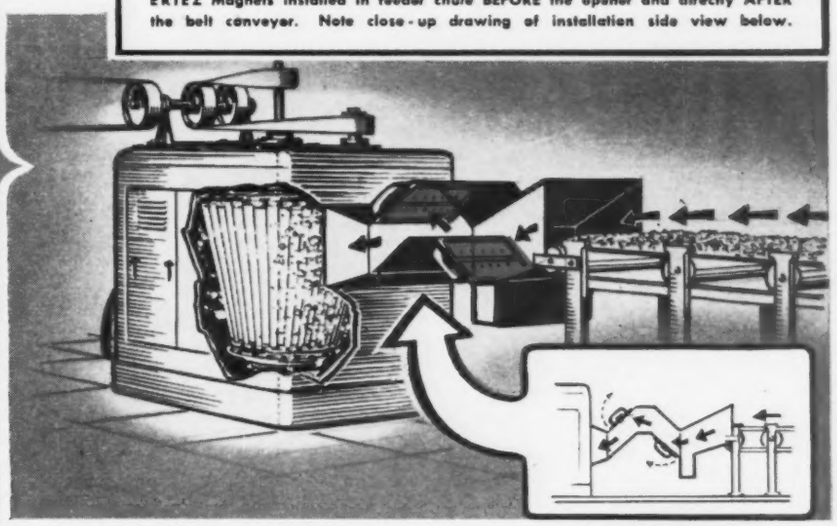
The wide preference for ERIEZ Magnets by leading textile processors throughout the world is based on the following advantages:

1. **Lowest Initial Cost.**
2. **No Operating Cost. No Repair Cost.**
3. **Lightest and Most Compact.**
4. **Easiest To Install.**
5. **Unconditional 10-Year Free Service Guarantee.**
6. **Made any Size to Fit Your Requirements.**
7. **MOST PROTECTION PER DOLLAR.**



After testing ERIEZ' efficiency installed over the spiked apron of a feeder, one New England Wool Processor writes: "We enclose our order No. 887, for one ERIEZ Magnetic Separator, to be exactly the same as the one you shipped to our Lebandale Mills."

ERIEZ Magnets installed in feeder chute BEFORE the opener and directly AFTER the belt conveyer. Note close-up drawing of installation side view below.



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For Your Copy of Bulletin 103 MAR

Eriez Mfg. Co., 501 E. 12th St., Erie, Pa.

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Address_____

City_____ State_____

Eriez (Say EAR' EEZ)

ERIEZ MANUFACTURING COMPANY

501 East 12th St. Erie, Penna.

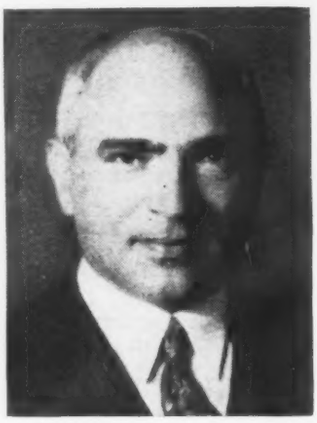
NEWS ABOUT Suppliers

Universal Winding Co., Providence, R. I.—J. W. Stribling, for the last two years editor of *Cotton*, has returned to Universal Winding Co., with which he had been associated for 19 years previous to Jan. 1, 1944. Mr. Stribling will be field engineer and sales agent for Universal with headquarters in Atlanta, Ga. His territory will cover Georgia, Alabama, Mississippi, and central and western Tennessee. He is succeeded as editor of *Cotton* by John C. Fonville, previously associate editor, who recently returned to that paper after four years of service in the Marine Corps. Previous to his military service, Mr. Fonville had been associate editor of *Cotton* for many years.

Crompton & Knowles Loom Works, Worcester, Mass., has appointed John C. Irvin as southern manager with offices at 1505 Hutchinson Ave., Charlotte, N. C. Mr. Irvin has been in the company's southern sales department for the last 25 years. He succeeds F. W. Howe, who is now at the Worcester office. Mr. Irvin reported that the southern staff now consists of Lewis Burgess, B. Gales McClintock, and W. Wallace Foster, Jr., as sales representatives; Raymond Sharpe, as field engineer; Thomas P. Graham, as office manager.

Whitin Machine Works, Whitinsville, Mass., has elected J. Hugh Bolton as president, succeeding E. Kent Swift, who becomes chairman of the board. Mr. Bolton retains the post of treasurer which he has held for many years. Vice presidents elected are Frederick E. Banfield, Robert J. McConnell, and Ralph E. Lincoln. Sydney R. Mason is secretary.

H. W. Butterworth & Sons Co., Philadelphia, has sold the Klauder-Weldon line of dyeing machinery to William E. H. Bell. Manufacture of this line which consists of circulating apron and rotary type skein, scouring, bleaching, and dyeing machines will be discontinued by Butterworth. In addition to these items, Mr. Bell will manufacture raw stock, roll-dyeing, bleaching, and washing machines. These were all formerly made by the old Klauder-Weldon Co. which Mr. Bell managed prior to its acquisition by Butterworth in 1926. Since that time, he has managed this division for Butterworth. Mr. Bell's purchase includes all drawings, patterns, jiggs and fixtures, etc., necessary for the manufacture of these machines. Mr. Bell will be located at Adams Ave. and Leiper St., Philadelphia, Pa.



VICTOR H. BERMAN, chairman of the board, Onyx Oil & Chemical Co., Jersey City, N. J., who has been elected president of the Processing Oils & Chemicals Association. He has been an officer and an active member of the association for many years.

Scott & Williams, Inc., New York, have adopted the "Seal of the Dancing Twins" to identify the fine, no-seam hosiery which will be made and marketed by a selected group of hosiery manufacturers under license agreement with Scott & Williams.

Standard Mill Supply Co., Pawtucket, R. I., has established an electrical department under the management of Lyman A. Merrill, who formerly was chief warrant officer, U. S. Navy for over 23 years.

Calco Chemical Div., American Cyanamid Co., Bound Brook, N. J., has appointed Ames B. Hettrick, as assistant manager of the Pigment Department. He has been manager of the former Virginia Chemical Corp., titanium dioxide plant, at Piney River, Va., since its acquisition by Calco. He will continue to make his headquarters at Piney River, directing the company's expansion program to increase the production of titanium dioxide at the Piney River and the Gloucester, N. J. plants. He was formerly vice president and general manager of the Virginia Chemical Corp. Roland V. Tailby has been named personnel manager of Calco.

American Machine & Metals, Inc., East Moline, Ill., has won the accident prevention flag awarded by **Liberty Mutual Insurance Co.** to concerns achieving outstanding records in prevention of accidents. In the 1943-1945 period, employees and management held lost-time accidents more than 25% below the national average for their industry.

Railway Supply & Mfg. Co., Cincinnati, Ohio, has restored Norman W. Paschall on his return from Army service to his former position as buyer and salesman of cotton fibers in their Atlanta office.

E. H. Jacobs Mfg. Co., Danielson, Conn., has added A. P. Newton to its staff as a specialist in the sales of "Plyweld" loom parts. Major Newton, formerly associated with the sales department of Interwoven Stocking Co., was a B-26 pilot and squadron commander in the European theater.

Dexter Chemical Corp., New York.—Alfred Driscoll, for the last five years chief chemist for the Celludye Corp. of New York, has joined Dexter Chemical as a member of the research staff of its textile chemical division.

Rayon Department, Nylon Division, of E. I. du Pont de Nemours & Co., has opened the following district sales offices to handle the distribution of nylon yarn to the textile trade (district sales managers are named): New York, 350 Fifth Ave., P. D. Atwood; Chicago, 7 South Dearborn St., W. E. Ferry; Philadelphia, 117 South 17th St., R. A. Moosmann; Providence, R. I., 15 Westminister St., G. C. Hazlewood; Reading, Pa., 35 North Sixth St., R. F. Fleming; Charlotte, N. C., 414 South Church St., T. C. Welling.

Morton Chemical Co., Greensboro, N. C., has added to its staff James E. Baker to be in charge of the company's sales in South Carolina, Georgia and Alabama, with office in Greenville, S. C. Col. Baker has been deputy chief of the Clothing & Equipage Branch, Office of The Quartermaster General, since his return from the European Theater of Operations in September, 1945.

E. F. Houghton & Co., Philadelphia, has operated a five-story addition to its plant at 303 W. Lehigh Avenue. The building was recently acquired from North Bros. Mfg. Co., and is located at No. American & Somerset Sts., opposite the Houghton main plant. It will be used to house equipment for manufacture of synthetic detergents and finishing materials for textile and other industries, and also for additional warehouse space.

National Starch Products, Inc., New York, has opened a new Southern division with headquarters at 1200 South Front St., New Orleans, under the managership of H. F. Stegall. This office will serve Louisiana, Texas, Oklahoma, Arkansas, Mississippi, and Western Tennessee.

American Development & Engineering Corp., Boston, Mass. has been formed to offer to in-

(Continued on page 258)

THE FLINTKOTE CO., New York, is constructing a new research laboratory at Morristown, N. J., of which the above is architect's drawing. It will cost about $1,000,000 for plant and equipment and is part of an accelerated program of product research and development and plant expansion and modernization involving a total outlay of $10,000,000. At least 75 to 100 specialists will serve on the staff of this laboratory. The building will be completely air-conditioned. Building will contain a wind tunnel for testing roofing and siding materials in wind velocities up to 70 m.p.h. Lester Kirschbaum is vice president of Flintkote, for research.

The Quality of Boger and Crawford knitting yarn is guaranteed —the highest tribute we can pay it. Signed . . . . . .

Frederick Boger

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UTICA, N. Y. • BOGER CITY, N. C. • BOSTON, MASS. • CHICAGO, ILL.

BRING THE WEATHER RIGHT INTO YOUR LABORATORY WITH THE . . .

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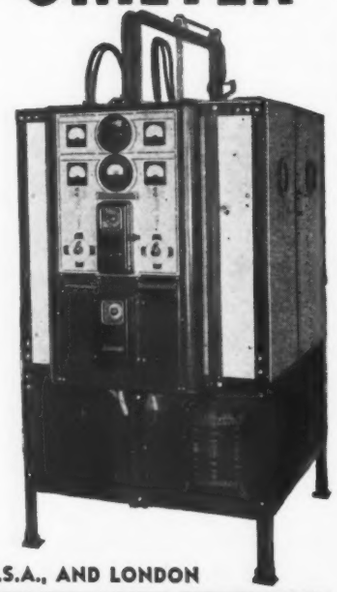
• Accelerated weathering of fabrics, finishes, paints, rubber, plastics, and hundreds of other products used in outdoor service can be conducted in the laboratory with the Weather-Ometer. The deteriorating effects of outdoor exposure can be reproduced in the Weather-Ometer by controllable cycles of light, water spray, selected temperatures and humidity.

A few days in the Weather-Ometer equals years of outdoor service. Operation is fully automatic, the Weather-Ometer can be run continuously without attention 24 hours a day.



Used all over the world { Atlas Weather-Ometers, Launder-Ometers, Fade-Ometers

SALES OFFICES IN PRINCIPLE CITIES IN U.S.A., AND LONDON

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Round Table

FOR EXCHANGE OF IDEAS

The Round Table is designed to supply a meeting place where mill men can discuss problems among themselves. It is open to all readers for discussion of subjects relating to mill management and operation. Names of contributors to the Round Table will be held confidential if so requested, but sign contributions with your real name and address as evidence of good faith and to permit payment for items published. Address contributions to: Editor Round Table, Textile World, 330 West 42nd St., New York 18, N. Y.

Worsted Loom Speed Needs Experimental Work

Figures based on a study of the effect of speed on loom efficiency do not support the widely held theory that 128 picks per minute is the top speed at which a worsted loom can be run economically; that is, without costing more in replacements and decreased efficiency than the gain in yardage is worth.

I have run sections of looms for several weeks at a speed of 134 p.p.m. without loss in loom efficiency. If there were more breakdowns at 134 picks, it would be reflected immediately in the efficiency figures taken from the looms.

Although the age of the loom and the type of fabric being woven have a direct bearing on the proper speed, many champions of the theory of not exceeding 128 picks persist in applying the figure to even the modern worsted loom. It is worth mentioning in this connection that some mills are experimenting with speeds of 140 to 148 p.p.m., although I know of no worsted-loom manufacturer who advocates these speeds.

On the basis of a speed of 128 p.p.m., a loom will produce 7680 picks per hour and 307,200 picks in 40 hours at 100% efficiency. Production for 40 hours

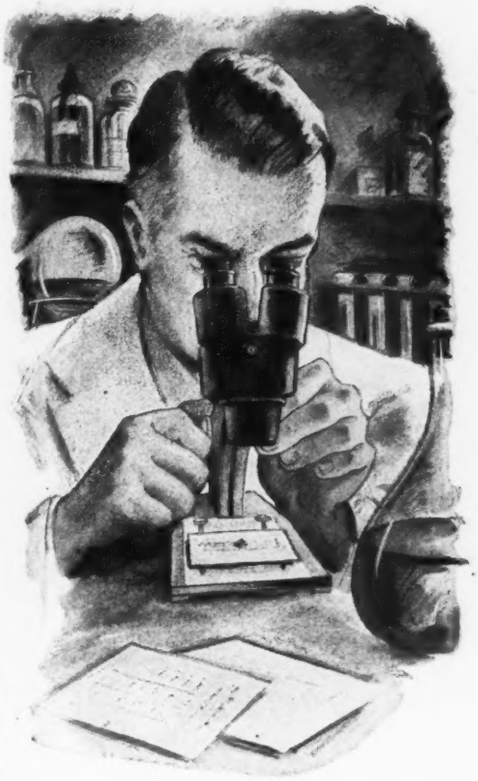
ORONITE

REG. U. S. CHEMICALS PAT. OFF.

THE NAME TO WATCH IN CHEMICALS

PURIFIED SULFONATE

—BASIC IN MODERN PROCESSING



PRIMARY APPLICATIONS	
USED IN:	PROPERTIES CONTRIBUTED BY PURIFIED SULFONATE:
Oils	Emulsifier
Fiber lubrication	Wets with oil
Deterging	Removal of oil-soluble soil
Dyeing	Imparts oil wetting

Purified Sulfonate, one of four different sulfonates made for particular industrial uses by Oronite, has polar properties as evidenced by its power to orient itself at oil interfaces, making it exceptionally efficient for the preparation of the specialized products listed above.

Laboratory samples are available if desired for your own experimentation. Please write for them, or for further information concerning specific applications, on your own business letterhead. No obligation will be involved.

TYPICAL TESTS:	
Content by Weight	
Sodium Sulfonates *	65%
Mineral Oil	29
Water	6
Inorganic Salts	None
Free Acidity	None
Free Alkalinity	Trace
Molecular Weight (Sodium Sulfonate)	440 (approx.)
Weight, lbs. per. gal.	8.6
Approximate pH Value	8.5

Clay absorption method

1178

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NOW! A new, proved method that KEEPS SPINNING ROOM FLOORS CLEAN, DRY, HARD

Q. *Is it true* that there is at last a new method by which spinning room floors can be kept clean, free from usual oil, dirt and made *resistant to embedding of travelers?*

A. *Yes*, such a floor maintenance method is the *Tennant System*. It is being used with spectacular success by many of the largest mills in the textile industry.

Here is an answer to a headache every mill owner has experienced: *how to keep spinning room floors clean* and bright, free from the usual slippery oil from machines, dirt, and embedded travelers?

Proved in countless mills, the TENNANT SYSTEM not only quickly removes oil and dirt in one fast, easy operation; it also *hardens* floor surfaces so travelers will not readily become embedded.

Floors stay bright, clean, and dry, last longer, are safer for traffic. Moreover, the TENNANT SYSTEM can restore many dirty, worn, traveler-filled floors to "like new" condition. **WRITE TODAY for Bulletin 81.B.**

G. H. TENNANT CO.
2585 Second Street North
Minneapolis 11, Minn.

This powerful, self-propelling Tennant Machine DRY CLEANS your mill floors. Saves work, cuts costs. Accessories for all floor maintenance functions.

The way to finer floors
TENNANT
Floor Maintenance System

REMEMBER!
The Tennant System ENDS SCRUBBING
...and it can be used throughout your mill

would be 268,800 picks at 87½% efficiency. In a fabric made with 56 picks per inch, this represents a little more than 133 yd. of cloth.

A loom running at 134 p.p.m. would produce 8040 picks per hour and 321,600 picks in 40 hours based on 100% efficiency. Making allowances for the claim that at this speed the loom will produce 2½% less efficiently than at 128 picks, it would operate at 85% efficiency and produce 273,360 picks in 40 hours. In a 56-pick fabric, this represents slightly more than 135 yd. of cloth, or two yards more per 40 hours than the yardage from a loom running 128 p.p.m. at 87½% efficiency.

Two extra yards from a loom every 40 hours is desirable. Actual loom figures, as has been shown, indicate that a loom at 134 picks is fully as efficient as at 128 picks. Thus, a loom running at 134 picks, at 87½% efficiency, will produce 281,400 picks or, at 56 picks per inch, slightly more than 139 yd. or cloth in 40 hours. This means six yards more from each loom per 40-hour shift than at 128 picks. In a 100-loom unit running two 40-hour shifts, an additional 1200 yd. a week could be produced.

In the case of mills having some not-so-modern looms, it might be helpful to keep a "breakdown" chart at the loom as a basis for determining proper speed. On this chart the fixer could record each break, replacement, stopped time, etc. By following the chart, a comparison could be made readily if the motor pinion were changed. Such a chart also is useful in checking wearing time of parts, particularly picking sticks, pickers, etc., all of which are not apt to be as dependable today as they will be later on. (*R*-235)

EDITOR'S NOTE: Loom speed versus production has long been a source of argument. *Round Table* welcomes opinions on the subject.

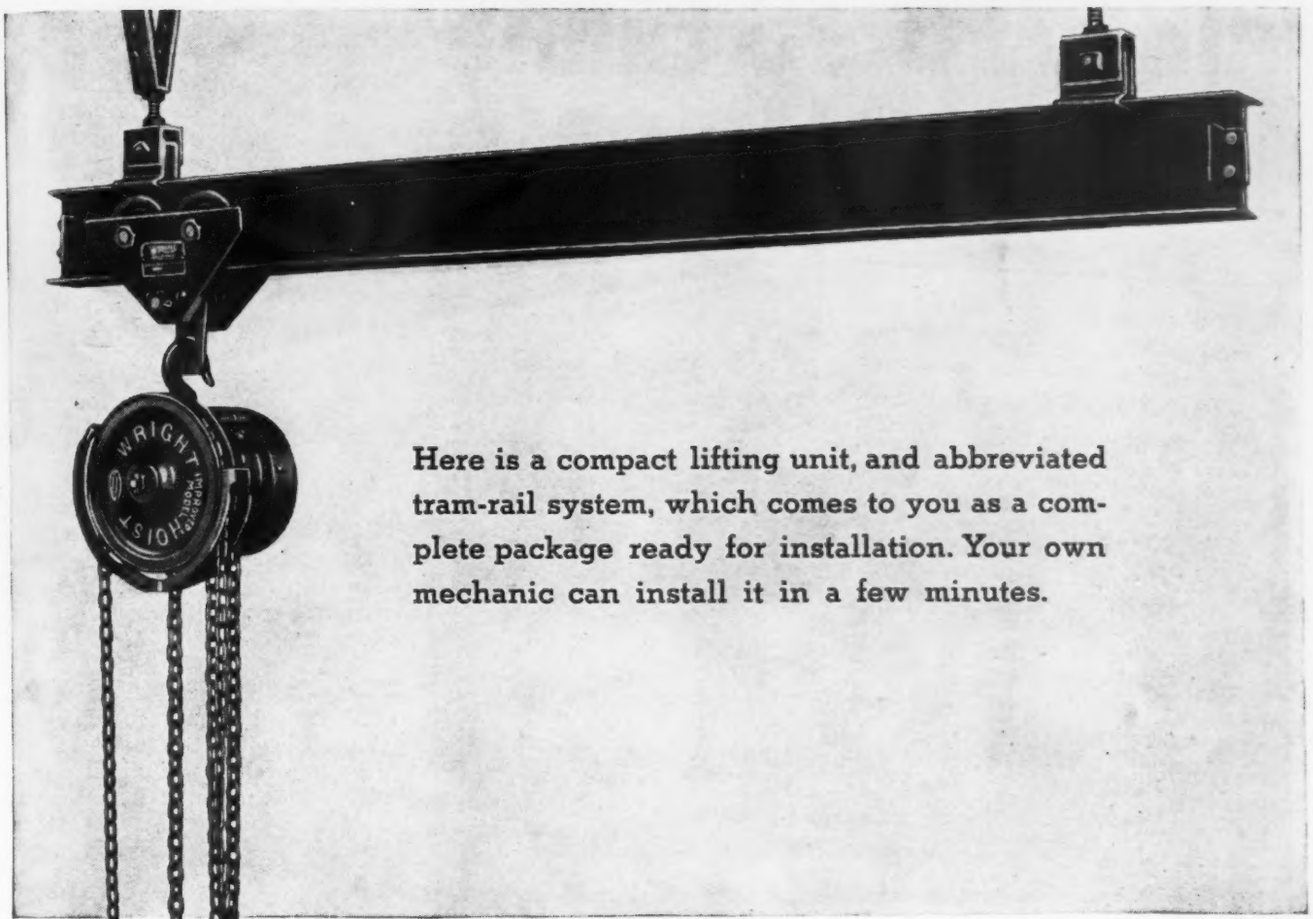
Wants Reprints of Article on Tying the Weaver's Knot

Some time ago E. D. Fowle wrote and illustrated a very worth-while, instructive article on how to tie a weaver's knot [TEXTILE WORLD, May 12, 1927]. We should very much like to get 100 or so copies of this article, if the plates are still available, to use in connection with a weaving school we have in operation.

We have been hit very hard laborwise. In our location it is necessary to train all of our help, and we have a big problem to build up 30 or 40 weavers.

I was particularly impressed with one comment in the article to the effect

WRIGHT *HOIST UNIT*



Here is a compact lifting unit, and abbreviated tram-rail system, which comes to you as a complete package ready for installation. Your own mechanic can install it in a few minutes.

This Wright hoist unit consists of an Improved High-Speed hoist, a Self-Aligning Roller Bearing trolley, 15 feet of I-beams with end stops, and two Utility universal hangers.

It is speedy, convenient, indispensable in the garage, receiving or shipping room, or any place where loads must be moved a short distance. Capacities: ¼ to 2 tons. Ask your local Wright distributor (see metropolitan classified telephone book).

ACCO

York, Pa., Chicago, Denver, Los Angeles, San Francisco, Portland, New York, Bridgeport, Conn.

WRIGHT MANUFACTURING DIVISION
AMERICAN CHAIN & CABLE

In Business for Your Safety

When Time Means Money
AIR EXPRESS EARNS ITS WEIGHT IN GOLD

22% slash in rates since 1943 makes this fastest delivery service a better business buy than ever

Do you need something fast — to keep your business going and men at work, to serve a customer or to *get* one? Do you need "delivery speed" on new merchandise or sales pieces to keep a customer happy? Then use Air Express. Let its speed save time (a matter of hours from coast-to-coast). And the time you save means money — money that makes this fastest delivery service "earn its weight in gold!"

HERE'S HOW LITTLE IT COSTS (U. S. A.)

AIR MILES	2 lbs.	5 lbs.	25 lbs.	40 lbs.	Over 40 lbs. Cents per lb.
149	$1.00	$1.00	$1.00	$1.23	3.07
349	1.02	1.18	2.30	3.68	9.21
549	1.07	1.42	3.84	6.14	15.35
1049	1.17	1.98	7.68	12.28	30.70
2349	1.45	3.53	17.65	28.24	70.61
Over 2350	1.47	3.68	18.42	29.47	73.68

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Shipments go everywhere at the speed of flight between principal U. S. towns and cities, with cost including special pick-up and delivery. Same-day delivery between many airport towns and cities. Fastest air-rail service to and from 23,000 off-airline points in the U. S. Service direct by air to and from scores of foreign countries in the world's best planes — manned by the world's best crews — giving the world's best service.

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that learners say they understand how to do the knot when they really don't, because they are afraid that confession will make them appear dumb. We have posted in a glass frame the only copy of Mr. Fowle's article in existence here in the mill. It is in the instruction room, and I have been told that learners sneak in there when nobody is looking and stand in front of it following instructions as they read, which indicate its value. *(R-229)*

Interest in Ramie Expressed by Readers

Following are excerpts from some of the letters received in response to the article on ramie in the December issue of TEXTILE WORLD.

I have read the ramie article with great interest and take this opportunity to congratulate you on a fine, factual presentation of the subject. You have performed a service for which there was a real need. *(R-225)*

To my recollection, it is the first time anyone has written an unbiased opinion of this problem child. When I tell you that I have worked with this fiber since 1904, you will understand the pleasure I derived from reading your article which was true and correct in all details from beginning to end. *(R-226)*

I am throwing out most of the scattered notes I have collected during the last 20 years on the subject of ramie, inasmuch as this contribution wraps it all up in a neat and concise bundle. *(R-227)*

In my judgment, this article is the only authoritative presentation of the case for and against ramie that has yet appeared. *(R-228)*

Spinners in India Advance Mill Research

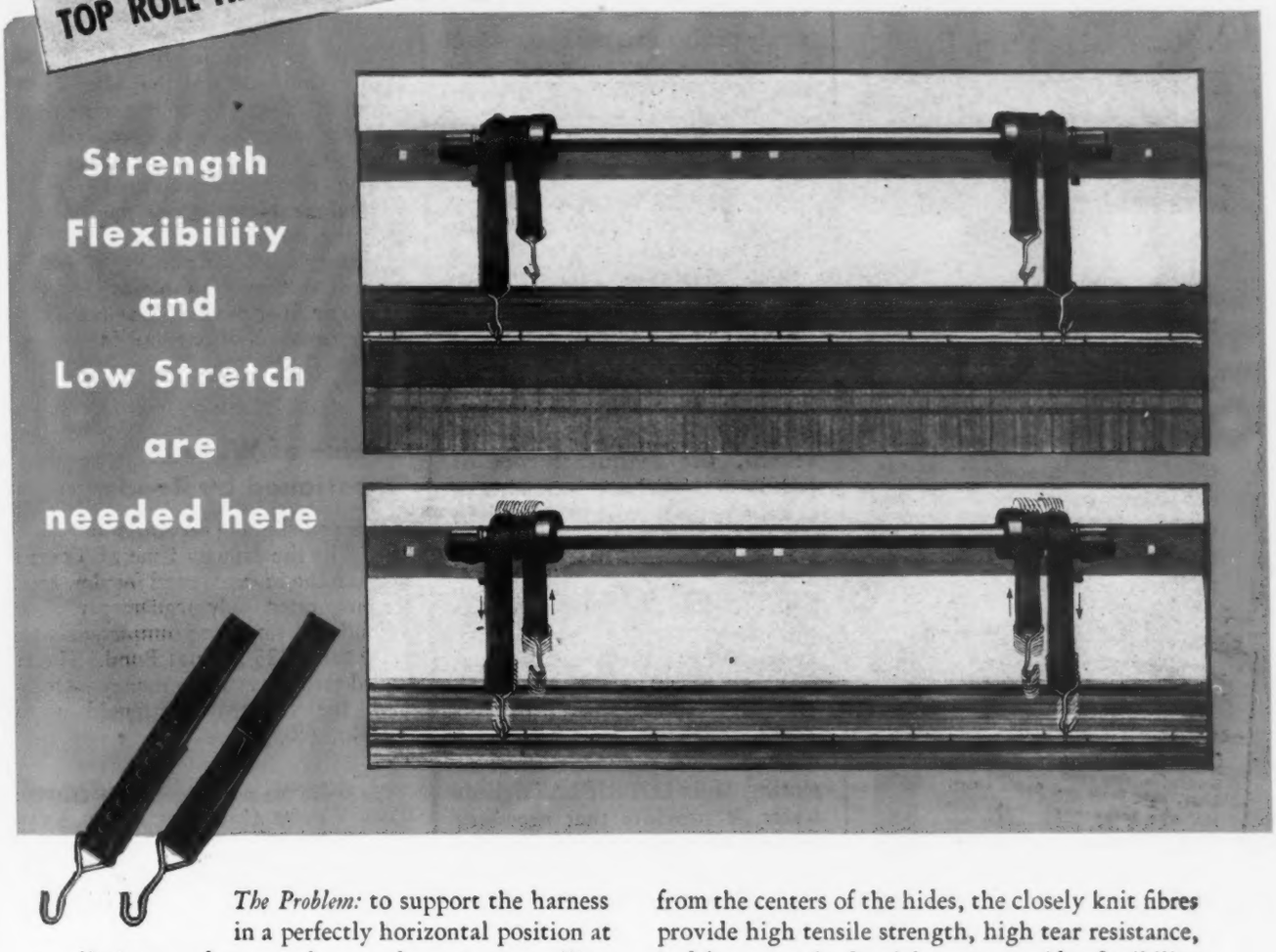
The Central Cotton Committee of India reports the development of a new cotton-spinning technique which makes it possible for a 2-lb. sample to yield results comparable with much larger samples. Other developments include new formulas for better prediction of the spinning value of Indian cotton from fiber properties and apparatus useful for measuring the diameter of fine wire, hair, wool fibers, artificial filaments, cotton lint, etc.

Experiments with various front-roll speeds of the drawing frame have indicated that a speed of 525 r.p.m. give the

LOOM LEATHER POINTERS No. 2

TOP ROLL HARNESS STRAPS

The second in a series discussing the performance requirements of loom leathers



The Problem: to support the harness in a perfectly horizontal position at all times and to stand up under constant rolling over the top roll shaft.

Service Requirements: ability to withstand constant tension created by the weight of the harness and the intermittent pull of the jack strap and to resist internal and surface wear as it winds over the top roll shaft, and high tear strength to prevent separation at the top roll and hook ends.

The Solution. Graton & Knight's "Hairitan" leather (furnished hairless for fabric protection). Because "Hairitan" Loom Leathers are selected from the centers of the hides, the closely knit fibres provide high tensile strength, high tear resistance, and low stretch. Special curry provides flexibility and high resistance to frictional wear. "Hairitan" harness strapping is equally effective when used on other types of tops.

All products in Graton & Knight's ORANGE LINE of "Hairitan" loom leathers — pickers, check straps and other strappings — are identified by the orange color on the flesh side. Write for catalog on Graton & Knight textile leathers. Graton & Knight Co., 326 Franklin St., Worcester 4, Massachusetts.

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A complete line manufactured by the world's largest manufacturer of industrial leathers. Supplied by the leading distributors in the textile industry. Look under "Graton & Knight" in "Belting" section of Classified Telephone Directory or THOMAS' REGISTER. See complete catalog in TEXTILE WORLD YEARBOOK.

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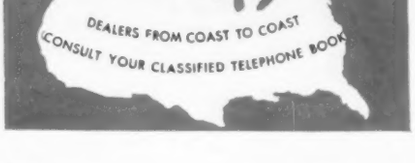

YOU CAN INCREASE LIFE EXPECTANCY OF ANTI-FRICTION BEARINGS

While manufacturers and users of all types of machinery base operating cost figures on a definite period of time, over which they can safely predict that their equipment will operate, they fully realize the economy that will result from increasing the "life expectancy" of bearings. Ball and Roller Bearings represent a sizable investment. In order to secure a paying return on the investment, considerable care must be exercised in installation and in lubrication. Manufacturers and users of anti-friction bearings have been able to increase the life expectancy of their bearings by the use of LUBRIPLATE Lubricants. There is a reason for this phenomena. Through long and careful research, the manufacturers of LUBRIPLATE have been able to combine all those desirable qualities that are vital to the continuous operation of anti-friction bearings.

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best results for long-staple cotton, 475 r.p.m. for medium-staple cotton, and 375 r.p.m. for short-staple cotton. Since some difficulty has been experienced in ginning Buri cotton, experiments were made with different sizes of grids. A grid of 6/16 or 7/16 in., with an overlap of 3/16 in., in a single-roller gin yielded the best results.

Tests on combing good-quality Indian cottons revealed that after the removal of 16 to 18% waste some of the cottons yielded yarns comparable in strength to Kampala carded yarns.

The committee reported that its technological laboratory currently is studying the causes of neps in cotton yarn and the spinning quality of mixes of Indian cottons. Emphasis is being placed on fiber properties, yarn strength, and preparation of tire cord from Indian cotton. *(R-230)*

Choice of Winner Questioned by Reader

Are you slipping on *Kinks and Short-Cuts!* In the January issue of TEXTILE WORLD the inverted creel for slow-speed warping rated only regular pay, while a hand reel for sizing samples took top place for a $25 Savings Bond. The inverted creel saves more money each day than the sizing device could in six months. *(R-236)*

The kink "Turning Creels Inside Out Cuts Down Warping Costs" was not an original idea; and not being original, it was not eligible for the Savings-Bond award. The contributor who sent it in recognized its value and wished to pass it on to the industry.—EDITOR.

The Mill Griper Often Gives Good Leads

This is probably the first time anyone has put in a good word for the "griper" in a textile mill. You recognize him, of course. He is the fellow who looks on the dark side of everything and insists on telling his supervisor what he sees there. Often, however, he brings to light matters which actually do need attention.

He frequently says exactly what the others think but lack the courage to tell the foreman or management. His greatest value lies in his ability to point out coming troubles while they still can be side-tracked. He will fuss at the first signs of approaching difficulty, while the rest of the workers wait until pressure has built up to the exploding point before saying anything.

If he says the unnecessary noise in the department distracts him, it may be

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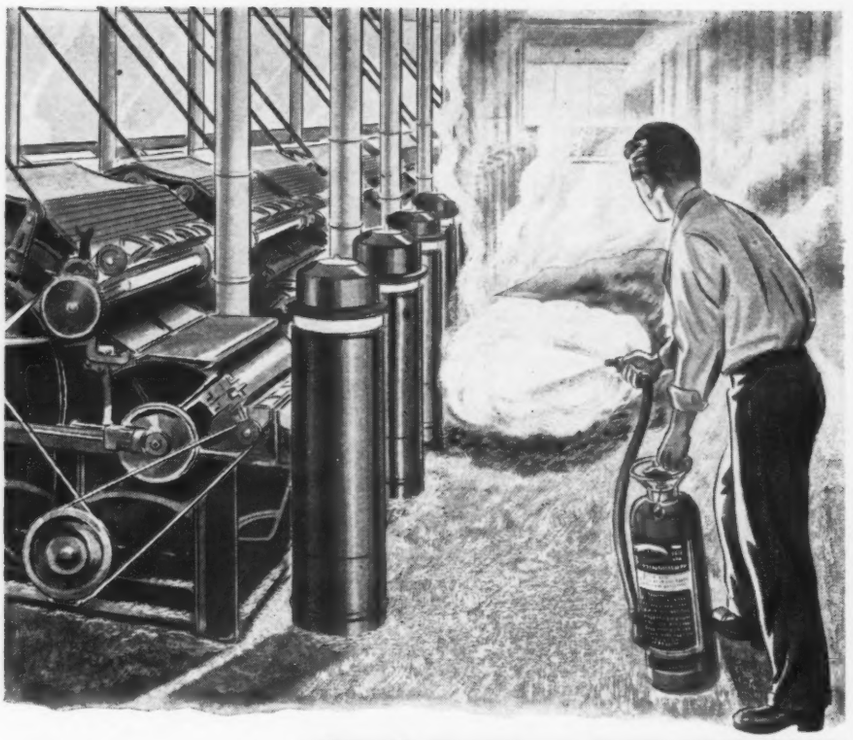

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true; and it may be having the same effect on others who don't mention it. If he complains that the work programs and wage schedules in the department are no longer fair to everyone, perhaps he knows what he's talking about. At least, his dissatisfaction is worth checking to learn whether he has only acquired the habit of expressing disfavor or whether he has a talent for discernment.

No one can seriously suggest encouraging the griper. It isn't necessary, anyway. Usually he combines a self-starter with perpetual motion. Frequently, it is best not to let him know he is being taken seriously, but it may prove to be good business and wise management to follow up his leads. *(R-231)*

Textile World Section On Handweaving Suggested

We are handweavers, and we would appreciate knowing the extent to which handweavers look to TEXTILE WORLD for helpful information. Speaking for ourselves, we get a great deal of good from it.

It is our thought that if enough handweavers are interested we could pool our information through the medium of TEXTILE WORLD, and perhaps a page of the magazine could be devoted to handweaving. *(R-223)*

Round Table welcomes further discussion of handweaving by any of its readers interested in it.—EDITOR.

Crispness of Style Liked by Reader

I wish to compliment you on the feature articles appearing in TEXTILE WORLD. I have found all of them to be interesting and informative. I also have found them to be quite readable, due in part to the style of writing, and to the frequent use of photographic and diagrammatic illustrations.

Whenever I find articles which possess "bloom and crispness" and which read smoothly and easily, I know from experience that the midnight oil has been burned many hours in the process of polishing and repolishing the manuscripts.

Spontaneity is a quality which we all strive to inject into our manuscripts and publications, but the attainment of such is always difficult by reason of the fact that it arises only from prolonged, hard editorial work and not from the so-called automatic and self-starting type of technique. *(R-197) Robert W. Webb*

RECONVERSION CHANGES

That are being met by

Loom Harness *and* Warp Preparation Equipment

Modern conditions and circumstances in the Weaving Industry have brought about great changes in both the machinery and the auxiliary equipment used in connection with same.

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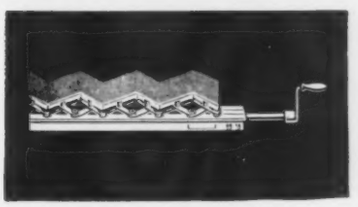

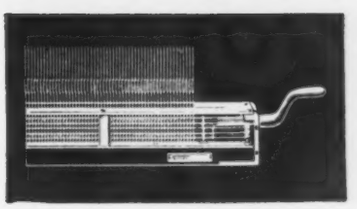

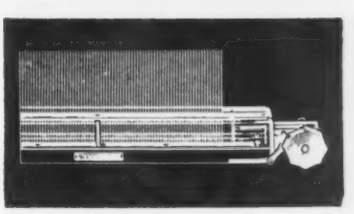

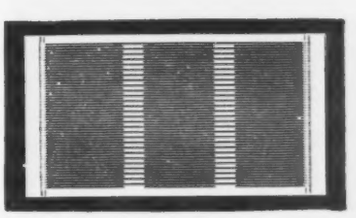

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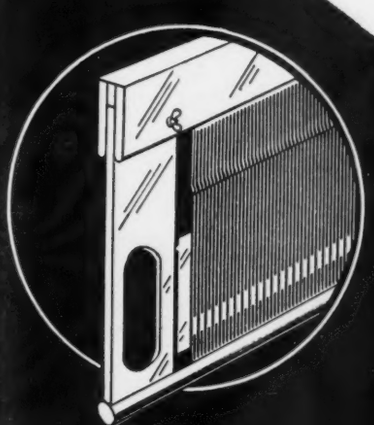

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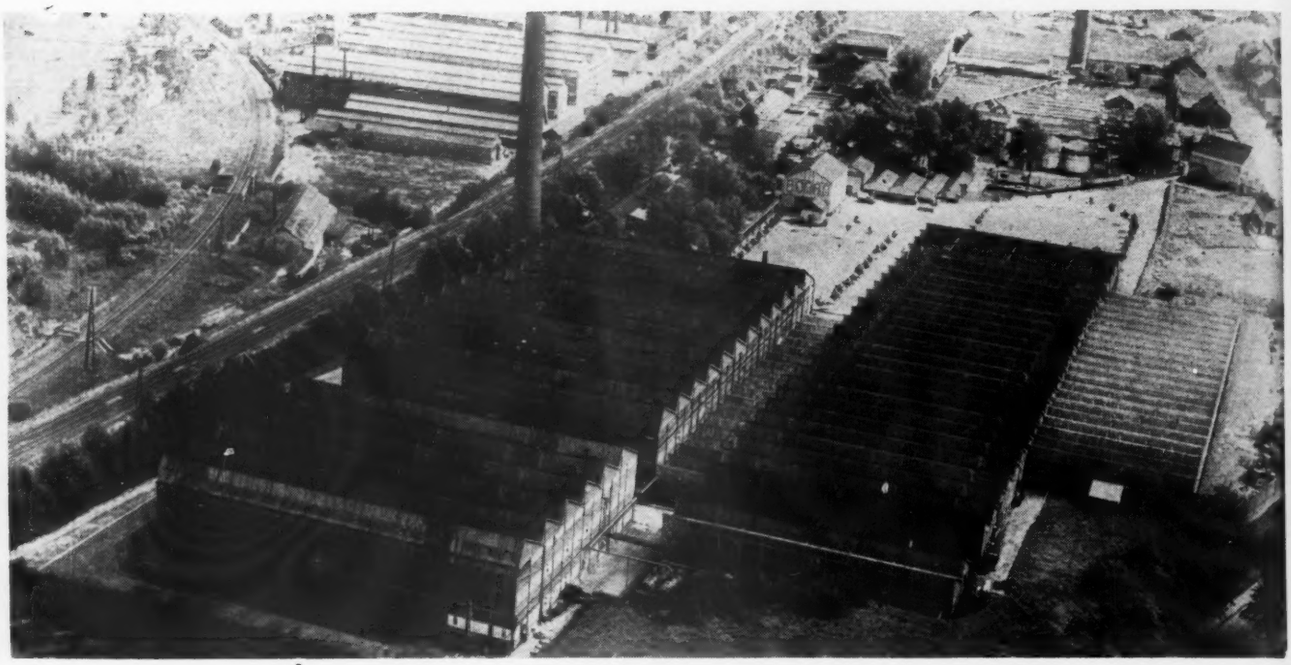

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(c) Send KOHORN engineers to erect plant, install machinery and building equipment.

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MANUFACTURERS' BULLETINS

READERS interested in literature reviewed on these pages may secure copies by using the lower of the two post cards provided. Mark what you want on it and send it to Textile World, 330 West 42nd St., New York 18, N. Y. Be sure to give your name and company connections.

1. Dye formulas for seventeen Spring shades of women's gloves are listed by Allied Chemical and Dye Corp., National Aniline Div., in *Dyestuffs*. The final installment of an article on double-crabbing methods also is noteworthy.

2. Industrial floor machines, are discussed in an illustrated bulletin issued by G. H. Tennant Co. The bulletin describes the electric, self-propelling model J Floor machine equipped with 12-in., drum-type accessories. Applications include removing incrusted grime, dry cleaning, sweeping, polishing, burnishing, and sanding.

3. Vinylite plastic films for use as raincoats, upholstery, household smocks, protective food bags, etc. are described in the latest issue of *Bakelite Review*. The films have a calendered finish and are supplied in thicknesses of .004 and .008 in. in rolls 48 in. wide.

4. A new 4000-lb. lift truck mounted on pneumatic tires is explained in detail in a booklet published by the Hyster Co.

5. Availability of paratex, a rubber-base, concrete-floor paint resistant to most chemicals, is announced in *Building Maintenance*, issued by Truscon Laboratories, Inc.

6. Ethyl cellulose processing, which was integrated with existing facilities for production of cellulose from purified cotton linters at the Hercules Powder Co. plant at Hopewell, Va., is discussed in the International Nickel Co.'s *Process Industries Quarterly*. The article is a condensation of one which appeared in the McGraw-Hill publication, *Chemical & Metallurgical Engineering*.

7. Designs for welded machine parts is the subject of an article in Lukens Steel Co.'s publication, *Lukens Plate*. The article is a reprint of a paper presented by George L. Snyder, Lukenweld, Inc., before the 66th Annual meeting of the ASME.

8. Location of regional plants in the West and South is explored in a new study released by the engineering firm of Ford, Bacon & Davis, Inc. The survey covers such factors as raw materials, transportation, labor, consumer market, fuel and power, and the matter of decentralization.

9. Single-stage general-service pumps, designed for a variety of services wherever liquids are handled, are described in a 20-page booklet published by Ingersoll-Rand Co. Considerable space is devoted to performance and dimension tabulations.

10. Humidifying - equipment maintenance is the important subject of a four-page service report issued by Oakite Products, Inc. Describing how Oakite Airefiner No. 52 can control formation of lime scale and inhibit growth of slime and mold, the report gives formulas and procedures for restoring humidifying equipment to efficient operation.

11. Industrial safety in New York State is reviewed from all aspects in the New York State Department of Labor monthly news magazine, the *Industrial Bulletin*.

12. Controlling, recording, and indicating instruments are described and specification data given in a 24-page catalog published by the Bristol Co. The catalog is illustrated with line drawings showing basic methods of applying various types of industrial instruments.

13. Supervisor conferences in the organization of the Caterpillar Tractor Co. during 1946 are placing particular emphasis on human-relations subjects, according to a new

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booklet produced by the company's training department.

14. Improvements in winding equipment and new ideas on operation are featured in the latest bulletin of the Universal Winding Co. Problems discussed deal with breakage-lever balance, preventing scrambled yarn, taper-end tube attachment, and lubrication of idler pulley.

15. Plastic coatings for protection of industrial equipment against acid, rust, corrosion, etc. are reviewed in the Niagara Alkali Co.'s monthly publication, the *Pioneer*. A new fabric made chiefly of chicken feathers is reported in laboratory-experiment stage.

16. Safety and relief valves to match improved designs in power and process equipment are announced in a catalog issued by Farris Engineering Co. A pictorial index shows line drawings of all basic valve types and is augmeted by data on use and specifications.

17. The vinyon family of textile fibers, their essential characteristics, method of production, and applications are discussed in the first of a series of articles on synthetic fibers in textile production appearing in *The Traveler*, published by the Victor Ring Traveler Co.

18. Automatic monitor cleaner, a high-velocity fan unit travelling on a loop of track suspended within the monitor, is featured in an illustrated booklet issued by American Monorail Co.

19. AISIMag 192 thread guides and the essential facts about their structure, applications, and limitations are discussed for benefit of textile engineers in a publication of the American Lava Corp. The guides are designed for processing abrasive yarns.

20. Evolution of dyestuffs and auxiliary-application compounds used in textile decorating is traced in an article in *Interchemical Review*, published by the research laboratories of Interchemical Corp.

21. Information on 26 types of stainless steel is contained in a 100-page, pocket-size handbook published by Allegheny Ludlum Steel Corp. The booklet brings up to date and amplifies stainless steel chapters of the earlier *Handbook of Special Steels*.

22. Role of surface-active agents in dyeing is discussed in a brief article appearing in *Dyelines and Bylines*, published by American Cyanamid Co., Calco Chemical Div.

23. Official terminology in the field of automatic controls for industrial processes is listed with explanatory diagrams in *Instrumentation*, published by Brown Instrument Co., a division of the Minneapolis-Honeywell Regulator Co.

24. Application of nylon plastics in the consumer-goods field is discussed in the latest *DuPont Plastics Bulletin*. Essential characteristics of five nylon molding powders are given.

25. Fiberglas cloth is now being coated with synthetic rubbers, vinyl compounds, synthetic resins, and other materials a booklet issued by Owens-Corning Fiberglas Corp. reveals. On the basis of wartime applications, a number of civilian uses are suggested.

26. "Surface Coating with Flock" is the title of a descriptive booklet just released by Rayon Processing Co. of R. I., Inc., manufacturers of printing and coating flock. It explains how finely cut particles of synthetic, vegetable, or animal fibers may be caused to adhere to any type of surface to produce coatings with appearances and feels similar to suede leather, velvet, velour, fur, mohair, felt, carpeting, etc.

27. Fire precautions during new mill construction are urged in the monthly publication of Associated Factory Mutual Fire Insurance Cos.

28. Hyamine 3258, a new fungicide, has proved itself as a mildew-proofing agent, announces the *Rohm & Haas Reporter*. A water-soluble material, Hyamine 3258 is reported to be easy to apply with any type of dyeing machinery. It is recommended for permanent mildew protection of articles which are subjected to repeated laundering.

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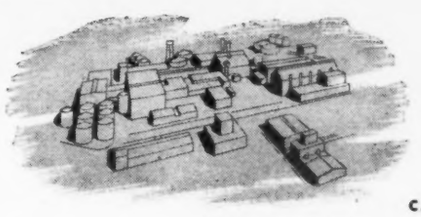

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WHY WE HAVE FIVE SALES OFFICES RATHER THAN ONE

WITHIN THE MEMORY of many mill men, a selling agent's activities could be handled from one office.

The times were leisurely, styles changed slowly, fabrics stayed popular for long periods.

Today, in an accelerated world, the selling agent must keep in much closer, more intimate contact with both his customers and their markets.

Not even the speed of modern transportation to any city is sufficient. The selling agent, if he is to serve his mills to the best advantage, must maintain offices in strategic areas.

The primary market for textiles is no longer largely concentrated in the East. It has spread to all other parts of the country.

In locating our offices in Boston, Atlanta, Chicago and San Francisco, we are in close touch with conditions in all these important centers.

MINOT HOOPER & COMPANY

Selling Agents, 40 Worth Street, New York City

(Established 1841)

BOSTON • CHICAGO • SAN FRANCISCO • ATLANTA

Running India Cotton Poses Cleaning Problem

Technical Editor:

India cotton generally contains a much higher proportion of whole seeds than does American cotton. In our processing, it is desirable that we obtain practically 100% removal of these seeds in the opening room. We should like to obtain your ideas as to the best type or types of cotton-cleaning equipment for use in removing India seeds. (9091)

Our experience with India cotton has been confined to processing small lots of ¾-in. to ⅞-in. coarse-fibered types for use in making soft-twisted yarn for napped goods.

The opener-room and picker-room equipment used was all conventional machinery. The layout consisted of S-L No. 7 blending feeders, vertical openers, two-section lattice openers equipped with S-L No. 11 dust and leaf extractors, and three-section one-process pickers with blending reserves. The first sections of the pickers were equipped with three-blade beaters, the second sections with two-blade beaters, and the finisher sections with carding beaters.

The only changes made in adjustments and speeds were as follows: The speed of the lifting apron on the No. 7 feeder was increased, and the combing roll was set closer. The beaters in the first and second picker sections were set $\frac{7}{16}$ in. to feed rolls, and the carding beater was set to $\frac{1}{8}$ in. Grid bars were opened up slightly with a greater angle at the top edges. No changes were made in the speeds of beaters or fans.

The picker lap and the card sliver were clean, free from seeds, and of good appearance. Number 8s yarn was made from this cotton on a fine roving frame. The yarn was of good appearance but very weak, with insufficient strength to permit efficient processing. This weakness was overcome by feeding a strand of 28s cotton yarn behind the top front roll. The

Get a perfect package and save money with the Kidde Tension and Density Control

- **Provides great uniformity of weight and yardage.**
- **Speeds up warping of high twist yarns.**
- **Reduces over-run from thread mills.**
- **Assures even colors on package dye yarns.**
- **Eliminates shiners and crossovers.**
- **Excellent for winding crepe yarn for cone warping.**
- **Adaptable to ball winding of knitting wool.**

The Kidde Tension and Density Control offers you an extremely economical means of assuring a perfect package.

This precision attachment will quickly pay for itself—and then bring you added profits—on raw and covered rubber, nylon, rayon, and special applications of dye package work.

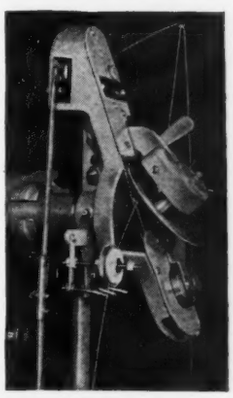
It will result in superior quality . . . *plus* substantial savings . . . on crepe yarns, filament rayon, spun and blended synthetics, and specialty and sale yarns.

Applicable to Universal 50 Winders, the Kidde Tension and Density Control principle has *proved* its effectiveness in the field. It's ready for *your* use now . . . mail the coupon for bulletin giving full details.

HOW IT WORKS

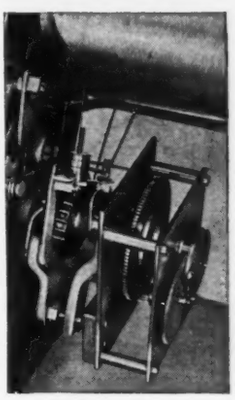
Tension Control

Tension is accurately maintained at any desired value, *down to practically zero grams*, by an adjustable arm. The arm feeds the yarn onto the package . . . drawing the supply through driven conical rolls, and delivering it to the package at a predetermined tension. The control arm compensates for supply variations by guiding the yarn, *automatically*, into the conical feed rolls at the right point for correct surface speed. A stop motion controls yarn breakage or snarling.



Density Control

A pressure-operated package guide bar maintains a constant, uniform contact with the package. As the diameter of the package increases, the increasing pressure between bar and package automatically operates a mechanical trip, which allows the winder "back" to recede. This action restores the ironing pressure to normal, and thus maintains the density of the package at the predetermined rate. (Density Control shown with housing removed.)



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391 Main Street, Belleville 9, New Jersey

Walter Kidde & Company, Inc.
391 Main Street,
Belleville 9, New Jersey

Gentlemen:
Please send me your bulletin, "Precision Textile Winding."

Name.....

Position.....

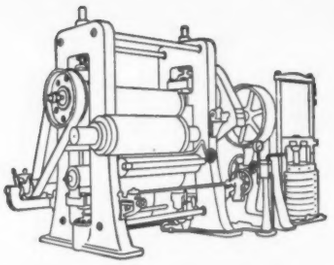
Company.....

Street Address.....

City and State.....

Kidde

The word "Kidde" and the Kidde seal are trade-marks of Walter Kidde & Company, Inc.



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yarn acted as a strong core for the weak India cotton yarn to wrap around.

The results were improved running on following operations and a desirable woolly feel to the goods after napping.

Asbestos and Cotton Do not Mix Uniformly

Technical Editor:

We are using 3-T Canadian Mill-Fiber asbestos and Strict Middling, 1 3/32-in. cotton grown in central California.

Mixing batch: 600 lb. cleaned fiber
85 lb. cotton
350 lb. fly
80 lb. waste

We lay the asbestos fiber, fly, and waste on the floor and run the mix through a revolving screen into a fan. The fan blows it to two willows, which mix it with cotton simultaneously blown in. The batches do not test very uniformly. We use roving to determine our cotton content, which comes fairly close to 80%; but the stock does not run very well on the cards or mules. During the war we were permitted to weave 75% asbestos cloth, and it ran very well through all the different stages of operation; but the stock was not uniform.

I am of the opinion that we could correct this lack of uniformity by using a Fearnaught mixing picker, and mix the blend better. We do not have double cards but run the stock through shoddy cards. (9089)

Additional information as to what opening processes you put the cotton through prior to blending it with the asbestos will be necessary before a definite answer can be given to this question. The indication is that the cotton fibers are not sufficiently opened prior to blending to permit a uniform mix. If this condition exists, the chances are that using a Fearnaught would largely correct the lack of uniformity but would probably damage your asbestos.

Slashing Tension Important for Rayon

Technical Editor:

What tension do you recommend for 100-den. acetate-rayon yarn while running from the warp beams to the slasher cylinder on a cotton warper?

To get the tension you recommend, what weight would you use on a 28-in. beam-head working with a 5/16-in. diameter rope? (9090)

As there are several different types of slashers, it would be difficult to say off-hand the exact tension weight required for running the 100-den. acetate yarn. There are also many factors other than the kind of slasher which enter into slashing or beaming that must be considered. One important thing is room moisture content. If

NAME IT . . . AND Olate* HAS IT

Mention a quality that you consider essential in a soap for processing the particular fiber or fabric you handle, and you're almost certain to find that Olate has it.

Safety? No other soap rates higher than Olate on this score. Pure, neutral, and uniform in quality, Olate treats every type of fiber gently.

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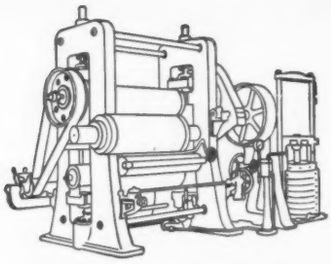
Efficiency? Olate's performance record in countless textile mills during the past decade speaks for itself. In the wartime period now ended, when mill production was at peak, Olate helped many a mill to avoid costly, time-wasting tie-ups and rejects.

* **There's a place in *your* mill where Olate's processing results can more than pay their way. Try Olate.**

SAFE AND EFFICIENT FOR EVERY TEXTILE SOAP USAGE

Procter & Gamble



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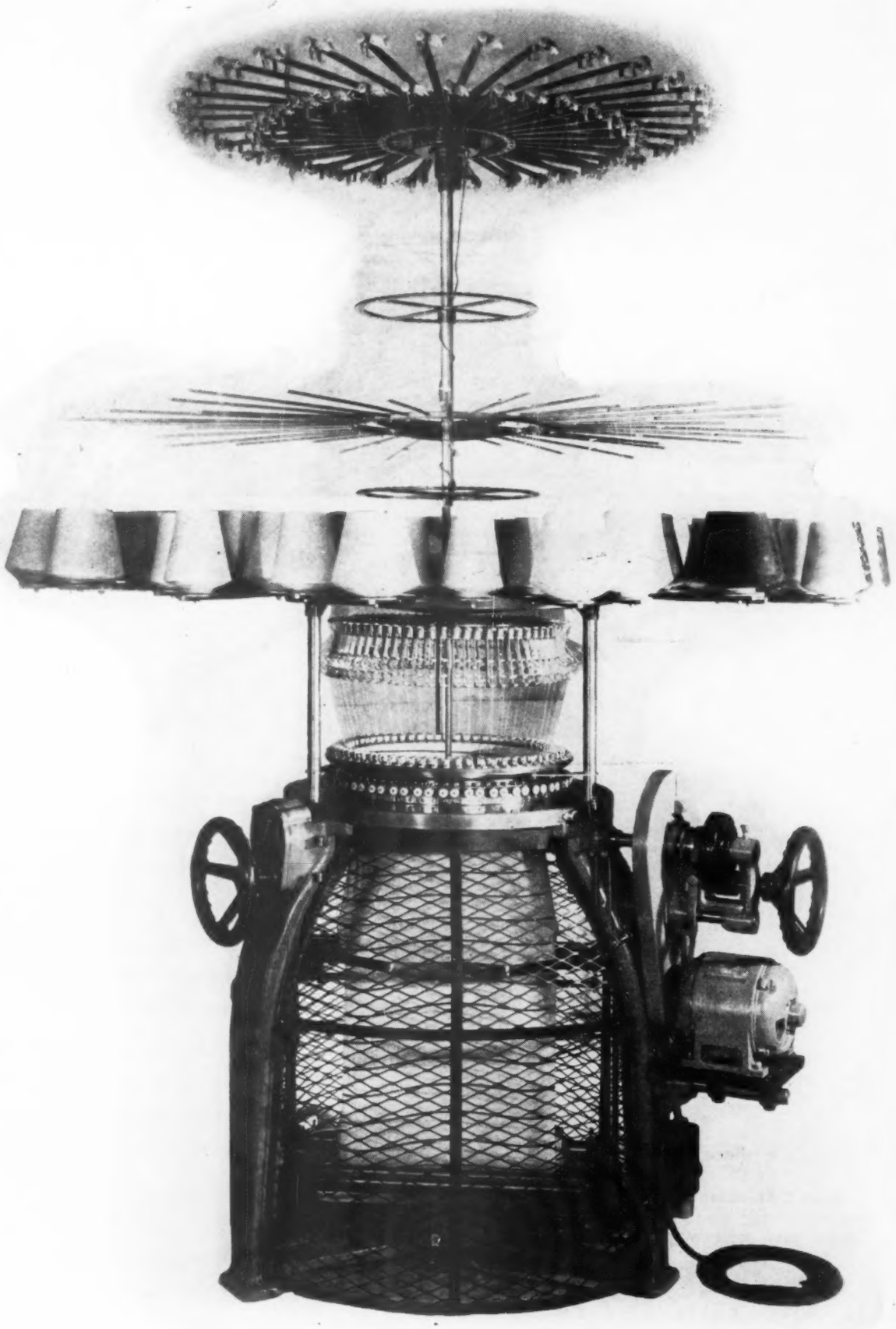

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Type M.J.-20″; **64 feed (illustrated) is a** ***high speed*** **precision built machine, averaging** ***more than 100 yards per hour*** **in commercial production. It is** ***streamlined*** **to eliminate eye fatigue; has a** ***stationary yarn stand*** **with** ***revolving cam box.*** **A newly developed heat treated steel is used on all camming.**

Type M.J.20 **has tripod legs with** ***powerful gear reductions*** **on each leg.** ***Easy accessibility*** **to all sides of the machine. For uniformity of pull and tight wound roll there's a** ***precision balanced take-up*** **revolving on** ***Timken bearings.*** **There's a** ***micrometer stitch adjuster; finger tip control*** **eliminating use of tools;** ***motor drive*** **with** ***silent chain*** **and a patented** ***new type disc clutch.***

Type M.J.20 **can now be seen in operation at our factory or in the showrooms of Supreme distributors. In all the world there's no knitting machine capable of** ***greater production*** **with** ***lower operating costs.***

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Southern Rep.: Morris Speizman Co., Inc., Charlotte, North Carolina

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$5,000.00-$10,000.00 FOR ACCIDENTAL DEATH	$25.00-$50.00 FOR WEEKLY DISABILITY	$25.00 PER WEEK FOR CONFINING SICKNESS	$10.00 PER WEEK FOR NON-CONFINING SICKNESS
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moisture is heavy, tension is affected considerably; and less weight is required.

The system we use on Allen's heavy beams requires approximately 2 lb. per beam on the $\frac{5}{16}$-in. rope. The rope is merely laid over the narrow head groove and does not lap. Each beam carries the same weight.

The beams are weighted primarily for the purpose of holding the yarn to keep it from running loose and to keep the beam from running away on a stop. Thus, when slasher cylinders slow down or stop, the light tension keeps the warp yarn sufficiently taut to prevent sagging.

After obtaining the desired tension, keep this tension even from start to finish. If tension is too light at the start of beaming and is built up, the under layers of a full warp will be so compressed that weaving them will be almost impossible. Tension rheostats will make guesswork unnecessary, and control readings should be kept as near alike as possible on subsequent warps.

Cylinders can be slowed with satisfactory results, but if they stop there will be a bad size mark on the warp which will be difficult to weave through the reed. Many times these size marks cause heavy beat-ups, and warp yarn tears out too frequently to weave efficiently. If several such size spots are in one piece, the amount of short cuts will be excessive; and the warp will usually have to be pulled in through the reed by hand without weaving.

Improper Tension Can Cause Warp Streaks

Technical Editor:

We are enclosing swatches of dyed and undyed cloth for your inspection. The warp is made of a combination of acetate filament and spun rayon. You will notice that there are some streaks in the warp and that these streaks are showing also in the finished sample. We have checked our yarns, and they seem to be correct. Can you suggest a way of overcoming these defects?

Warp streaks, such as your swatches show, can be caused by any one of several different factors, or by a combination of them. The most likely causes of these warp streaks are uneven tensions in preparatory processes and unevenly spaced dents in the loom reed. The logical approach to your problem is to select a loom weaving cloth that contains warp streaks and change to a new reed for purposes of comparison. If the new reed does not improve the condition, check the tensions through all your throwing and preparatory processes. Be certain that all warp ends are subjected to a uniform tension.

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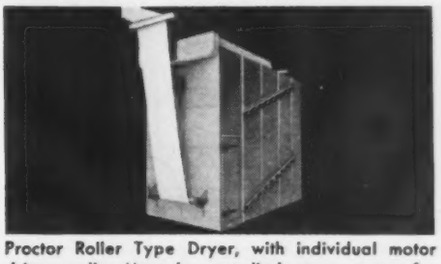
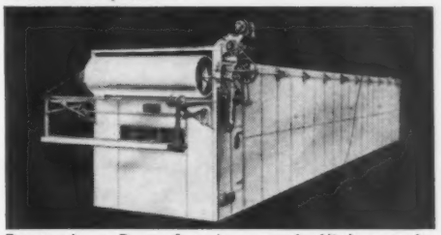
TO MEET INDIVIDUAL NEEDS

PROCTOR DRYERS FOR THE TEXTILE INDUSTRY

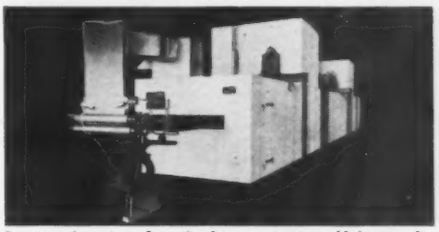
While the textile industry lends itself to a certain degree of standardization in the basic design of drying equipment, actually no two problems are identical. That's why, in supplying drying machinery and curing equipment to all phases of the textile industry, Proctor engineers consider each installation as a specific case and make their recommendations accordingly. While certain basic designs may be applicable to certain basic requirements, many factors may enter the problem. Building layout, output requirements, type of material handled, methods of preliminary and subsequent operations —all may make yours an individual drying problem. It's because of Proctor engineers' background in designing equipment for the textile industry that it pays to consult Proctor & Schwartz first.



Proctor Roller Type Dryer, with individual motor driven rolls. May be supplied as a curer for moderate capacities.



Proctor Loop Dryer for piece goods. High capacity machine that may also be designed to operate as a curer where output requirements are high.



Proctor housing for single run tenter. Unique air-circulation promotes rapid drying and uniformly excellent finishing.

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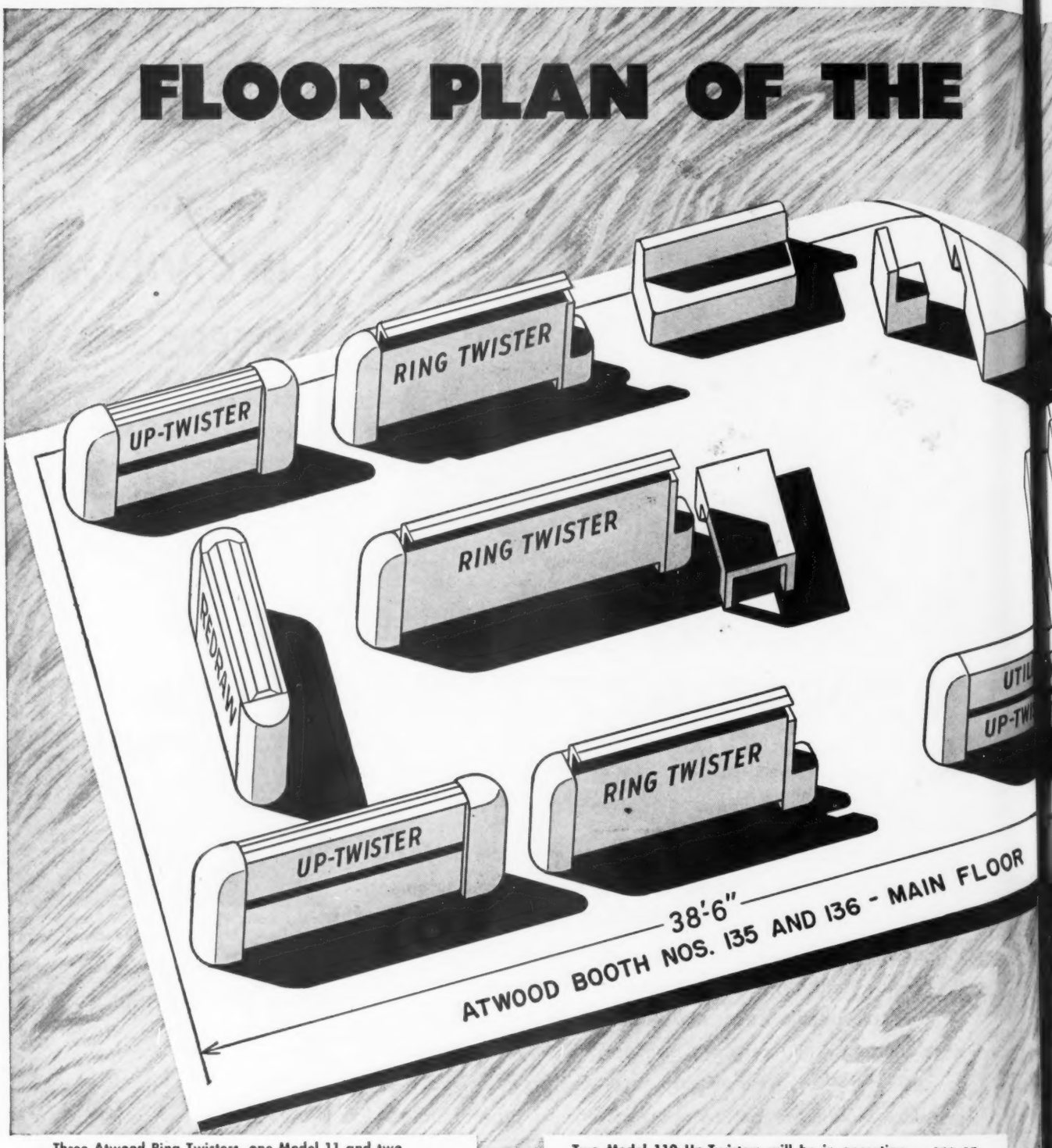
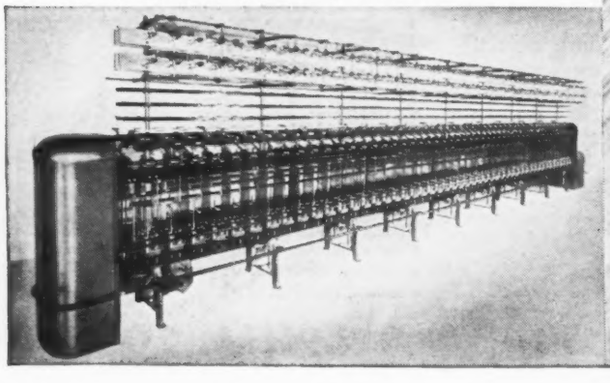
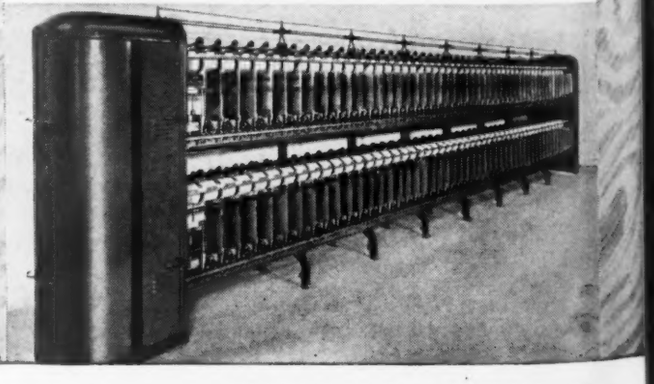


Three Atwood Ring Twisters, one Model 11 and two Model 10, will be operating at Greenville.



Two Model 110 Up-Twisters will be in operation — one on headless and the other on bobbin package takeup.



1946 EXPOSITION
of Modern Twisting and Winding Machinery

THE TEXTILE SHOW IS POSTPONED
BUT YOU CAN STILL SEE THIS ATWOOD EXHIBIT

This floor plan shows the exhibit of Atwood twisting and winding machinery that we had prepared for the 15th Annual Southern Textile Exposition.

The show at Greenville has been postponed and will not be held in April as planned, but you can still see these seven Atwood machines in operation at Stonington where they are being reinstalled as a permanent operating exhibit in our Research and Development Laboratory. You are cordially invited to visit us there and see these machines demonstrated on various kinds of yarns.

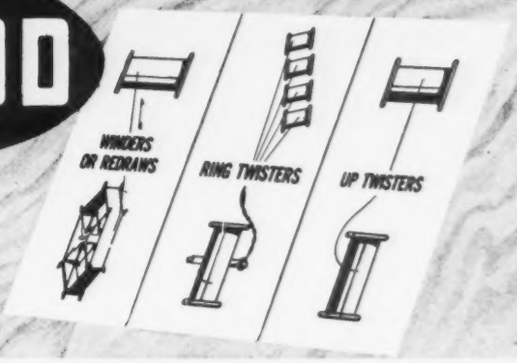
Experienced engineers will be available to tell you about the many technical improvements and operating advantages that are now being built into Atwood equipment—improvements and advantages based on Atwood's constant research and development efforts to give you quantity and quality production of whatever type of yarn you twist.

Come to Stonington and see *what's new in yarn machinery!*

ATWOOD DIVISION
FARREL-BIRMINGHAM COMPANY, INC.
STONINGTON, CONN.

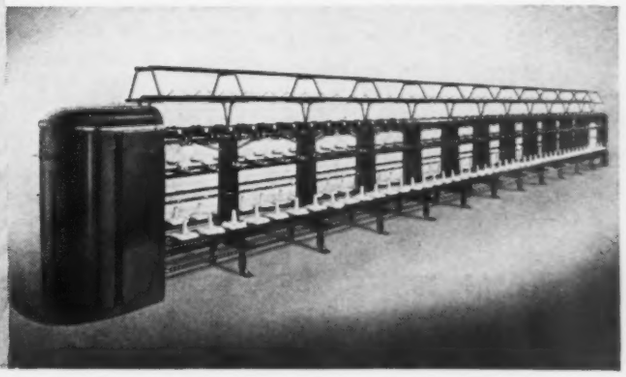
AD—4

ATWOOD
SINCE 1852



One deck of the Utility Up-Twister will be in operation on rayon crepe, and the other deck on nylon hosiery yarn.

There will be one Model 200 Redraw in operation at the Atwood booth in Textile Hall.



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Star's purity permits high dilutions without breaking. Thus you avoid the build-up of a rough scale on the J box, which forms when less pure silicates are used and which must be scoured off by hand to avoid rejects.

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TEXTILE MILL
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Made by crayon experts—and for many years meeting, the exacting requirements of wool, cotton, silk and rayon textile mills.
18 clear, easily distinguished colors. Both large and small stick crayons.
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DALLAS

When to Use Rayon

(*Continued from page 119*)

types. For a use such as this, fabrics should possess considerable strength and launderability and be low in price. Cotton fabrics meet all these requirements so well that they have had practically no competition with fabrics made of other fibers.

Men's business and dress shirts. Many attempts have been made to produce a rayon fabric that would enter the men's business- and dress-shirt trade, but so far they have met with little permanent success. Around 200,000 bales of cotton are consumed each year for this purpose, making the incentive for these attempts obvious. It should not be overlooked, however, that rayon is extensively used in sport shirts and that this type of shirt has been displacing the business or dress shirt to some extent in American custom.

Mens' and boys' underwear. Although rayon is used to a limited extent for men's and boys' underwear, most underwear of this type is made of cotton, more than 200,000 bales of cotton going into this use annually.

Sheets and pillowcases. With the exception of a minor proportion made from linen, practically all sheets and pillowcases are made from cotton. Moderate strength and the ability to withstand frequent laundering with little wear and tear are the principal requirements of the fabrics that go into this use.

Towels. Some part-rayon towels are now being produced, but the chance that rayon will take over a substantial part of this field is negligible. Of the 200,000 to 250,000 bales of cotton going into this use each year, only negligible quantities are in danger of being replaced by rayon.

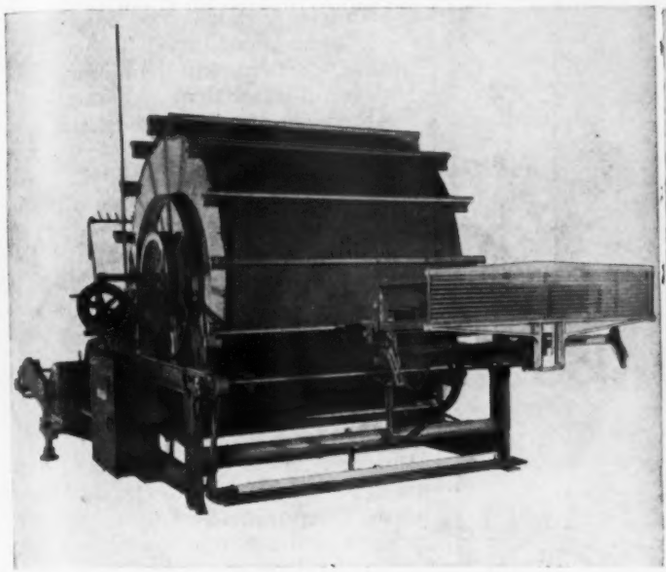
Cordage and twine. From 400 to 600 million pounds of cordage and twine are manufactured annually in the United States from the various hard fibers and from cotton, jute, flax, and hemp. No rayon has been used in this field, with the exception of negligible quantities in decorative cords. Since strength and durability at very low cost are usually demanded of the fibers used for cordage and twine, it is unlikely that rayon will be used to any great extent for this purpose.

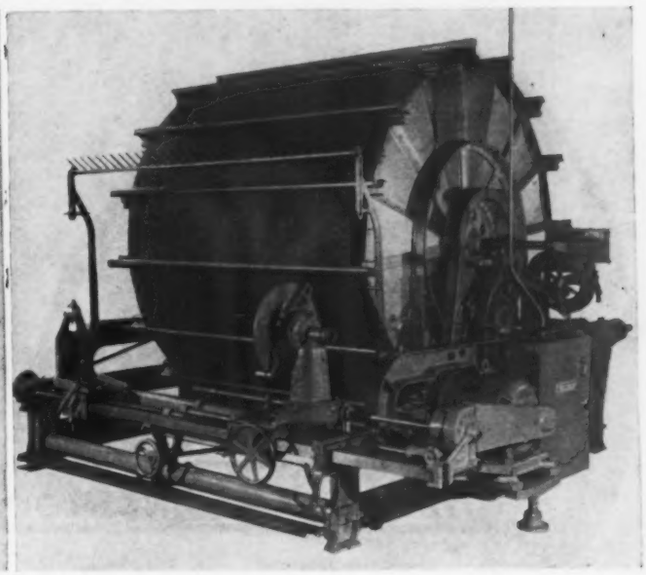
Other uses. Rayon has had little or no use in such diverse products as awnings, tents, sails, tarpaulins, slip covers, bookbindings, boys' hats and caps, and diapers, to mention a few. These uses illustrate certain advantages of cotton, silk, wool, and other fibers over rayon in such properties as strength, durability, resistance to heat, felting qualities, and others, either with or without advantages in cost.

New—

High Speed Horizontal Warper

WITH ALL-METAL REEL





Introducing an entirely new development of the 60 years textile engineering experience of Sipp-Eastwood. Here are some of its characteristics:

(1) Capable of up to 500 yards a minute top speed, it will keep warps supplied to your looms as fast as needed. At the same time higher quality warps are provided.

(2) Magnesium alloy face rails and spokes increase strength, save weight and accelerate speed.

(3) The controls for elevation irons are centrally located.

(4) The new type of modern electric drive has a four-speed range up to 500 yards per minute. Beam speeds of 22 to 66 r.p.m. Speed changes made without stopping beaming or letting off tension. A specially sturdy heavy duty multi-speed motor is employed.

There are so many other valuable features in this new warper that it will pay you to write today for the new bulletin, "High Speed Horizontal Warper" which contains full technical description.

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IN TEXTILE MACHINERY

MANUFACTURERS

High speed horizontal and beam warpers, over-end cone creels, oil-less bearing winders and redraw frames, rebeamers, tensometers, densimeters, and special machinery.

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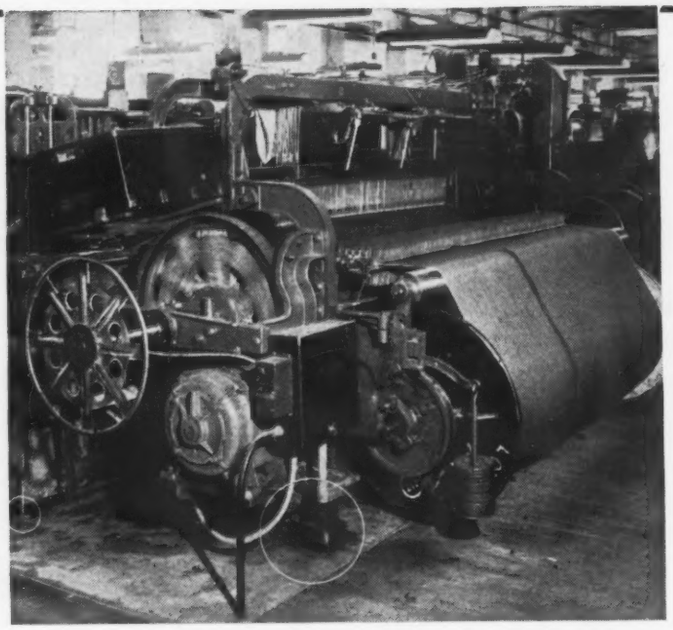

Anchor Your Looms

WITHOUT BOLTS

WITHOUT DAMAGING FLOORS

There's no drilling or boring or damaging floors when you anchor looms with *genuine* Unisorb cushion mountings. It's simple, quick and inexpensive. A special cement securely binds the Unisorb to the machine feet and the floor — permanent set absolutely prevents any riding of the machine.

By controlling vibration with Unisorb — you will realize further dividends through the saving in machine repairs and reduction in shut-down hours; through greater production from speedier operation; through increased efficiency in quieter surroundings; through the reduction of building maintenance costs.

Unisorb does not deteriorate with age or use, nor are its isolation characteristics affected by oil, gasoline or water.

Send for complete information.

IT'S EASY TO IDENTIFY GENUINE **UNISORB**

LOOK FOR THE RED CENTER AND UNISORB BRAND MARK

THE FELTERS COMPANY

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Offices: New York, Philadelphia, Chicago, Detroit.
Sales Representatives: San Francisco, St. Louis. *Mills:* Johnson City, New York; Millbury, Massachusetts; Jackson, Michigan.

Worsted Yarns

(*Continued from page 123*)

used in both cases at the start. Considerable static is developed and the use of dry-combed tops is not recommended.

Better fiber control makes higher drafts possible. On the Super-Draft roving frame, drafts between 15 and 20 are considered ideal.

Since an even sliver is obtained with fewer operations and considerably less doublings, the theory that an uneven top can be rectified only to a point seems to be strengthened further. Any further operations and doublings would be harmful rather than advantageous.

At present, average commercial tops show variations in yard per yard unevenness ranging from 30% to 40%. These variations are excessive and are basically responsible for inability to produce an even yarn. They have motivated the various experiments aimed at elimination of the combing process and production of worsted yarns from a carded sliver, which from the standpoint of evenness is superior to the combed sliver.

The principal limitation of the American system is fiber length. Fibers up to 3 and even 4 in. average have been used successfully, covering a large percentage of the merino top field.

On the American system, no twist is used up to the roving operation. Then just enough twist is inserted to make pulling off on the spinning creel possible. The elimination of twist certainly seems to be a move in the right direction in view of the often expressed contention that twist is harmful in drawing and does not make for good drafting. In this respect, the American system is closer to the French than to Bradford spinning. The appearance of the yarn bears this out and there is good reason to believe that wherever French-spun yarn is used, American spun can also be used successfully.

The comparison of the American and Bradford systems in Table II shows a considerable saving in favor of the former method, particularly in respect to reduction in number of operators involved and to the greater speed possible.

Higher speeds are achieved by reason of less end breakage, through better fiber control, and also by use of smaller rings.

Three factors are responsible for the saving in labor:

1. Under ideal relative-humidity conditions, end breakages run as low as 25 ends per 1,000 spindle hours.

2. Long drafts make possible the use of two ends of roving of the same weight as the one used on the Bradford system with a consequent 50% reduction in roving changes.

3. Cleaning time is reduced because

(*Continued on page 209*)

How would YOU print this pattern?

This design, printed on rayon crepe dress goods, was produced by the *Apponaug Company* for *Arthur Beir & Co.*, well-known converter of high quality cotton and rayon fabrics.

Here's how it was done:

1. The light blue ground was dyed in the usual manner with direct colors.
2. The white discharge was obtained by printing with Aridye* White F2I, cut 1:5 with Aridye Clear containing 12 oz. per gal. sulfoxylate.
3. The gray was overprinted, using 2 parts Aridye Black FK and 1 part Aridye Blue FC2G, cut 1:48.
4. The outline was printed with aniline black using a starch and gum thickener.
5. After printing, the fabric was dried, padded with peroxide, steam aged, washed.

Note particularly, the fine details of the feathery edging, the close registration and the complete absence of halo. Only by the use of Aridye Pigment Colors could these results have been obtained in printing this unusually striking floral design.

It is because of their excellent printing qualities, ease of application and exceptional fastness to sunlight and washing that Aridye Pigment Colors, alone or in combination with other dyestuffs, are being used more and more by such foremost printers of fine cottons and rayons as the Apponaug Company.

The pattern shown here is but one of many examples of the unusual effects which are easy to obtain with Aridye Pigment Colors, but difficult to produce by conventional methods. It is by no means an exception. For Aridye Colors also offer you many definite advantages when used in your everyday dyeing and printing jobs.

Why not have an Aridye technical service man discuss your printing and dyeing problems with you? Write to Aridye Corporation—Pioneers in Pigment Colors for Textiles—Fair Lawn, New Jersey.

*REG. U. S. PAT. OFF.

CHECK THESE 8 ADVANTAGES

Sharpness of Mark · Exceptional Fastness to Sunlight · Uniformity of Shade · Fastness to Washing · Bright Colors · Economy · Ease of Application · No Impairment of Hand

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PIGMENT COLORS

TEXTILE BANKING COMPANY

Inc.

Factoring Service

Puts your sales on a cash basis
Strengthens your cash position
Relieves you of credit losses

55 MADISON AVENUE • NEW YORK

(*Continued from page 206*)

the yarn spun on the American system is smoother and not so likely to produce lint. Automatic cleaners travelling on a rail and cleaning the upper part of the spinning frames further contribute to reduction of cleaning time.

Comparative lay-outs shown in Table I are based on a completely new installation. The most likely assumption is that, while many worsted-spinning plants will use some of this machinery in the near future, few will consider a complete changeover. The French spinners are much better equipped for a gradual changeover, because they can use their present drawing with the long-draft spinning. Bradford spinners are unable to do this and would have to work from the opposite direction.

One solution would be to use the American system drawing, Super-Draft ring roving instead of the standard flyer, followed by the conventional Bradford spinning frame. In this way, a good fiber control is secured up to spinning.

Speculation on the subject also must take into consideration the likelihood that cotton spinners might find it to their advantage to spin worsted yarns by changing over some of their existing equipment.

Rayon on Woolen System

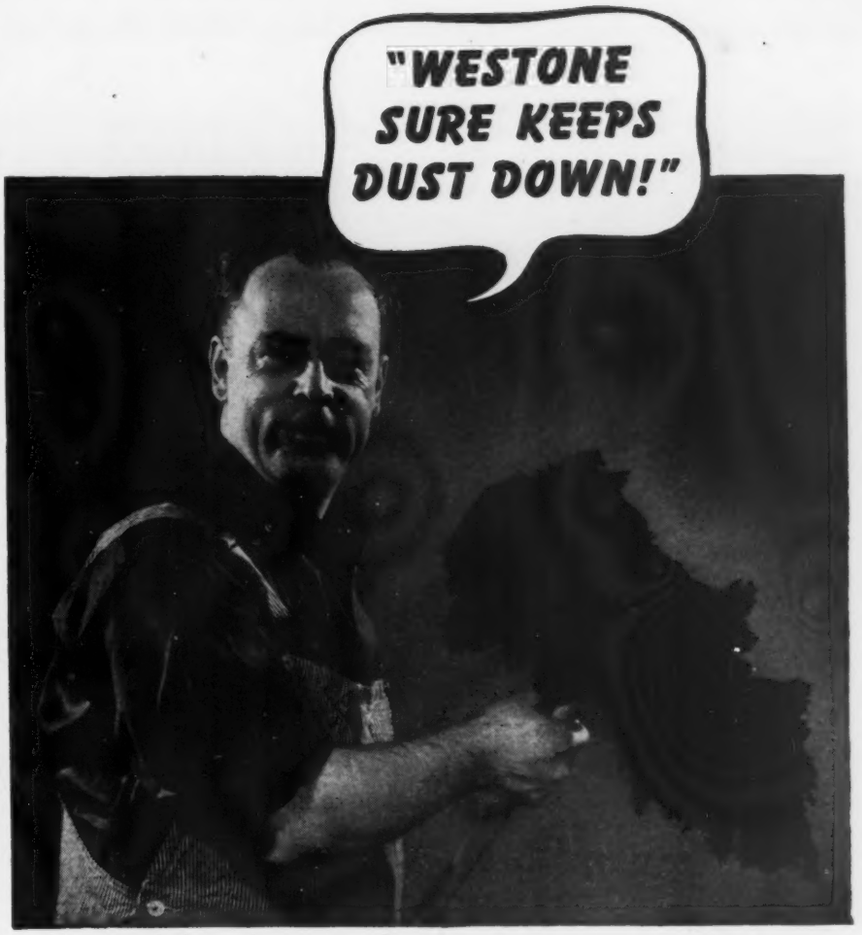
(*Continued from page 133*)

The position of the deflector rod is also largely responsible for the characteristics of the finished product. When a strong, lean yarn is desired, such as would be suitable for warps, the deflector rod should be raised to a point where the yarn being drafted will barely touch the tips on the twister tube. A lofty yarn with a more wooly appearance, suitable for filling, will result if the deflector rod is lowered so that the tips of the twister tube strike the yarn full enough to cause it to balloon somewhat.

When spinning a wool-rayon blend the deflector rod should again be lowered. The wool will then go to the outside, and the rayon will spin down the center.

DRAFT. For the most part, we favor rather low draft. We have been able to produce a good quality yarn at a higher rate of production than is possible with higher drafts, and with no sacrifice in carding efficiency or production. This is done simply by increasing the speed of the doffer and condenser so that the same pounds-per-hour production is maintained.

In setting the draft for 100% rayon, we have found a draft of 1.4 to be best. At this point, we have been able to obtain more even yarn and maintain



HOW WESTONE CONTROLS DUST

Floor traffic is one of the main causes of dust in room atmosphere, and continuous traffic never gives the dust a chance to settle. Even open windows do not contribute as much atmospheric dust as does floor traffic. Westone has, in addition to its other properties, a peculiar *affinity for dust* and where it is properly used to maintain a floor, the atmosphere will be comparatively free from it because foot traffic will not cause the dust to rise.

•

WESTONE, the liquid chemical floor treatment simplifies floor maintenance problems. It continually improves floor appearance, penetrates rapidly and evenly and *actually seems to become part of the floor material itself.*

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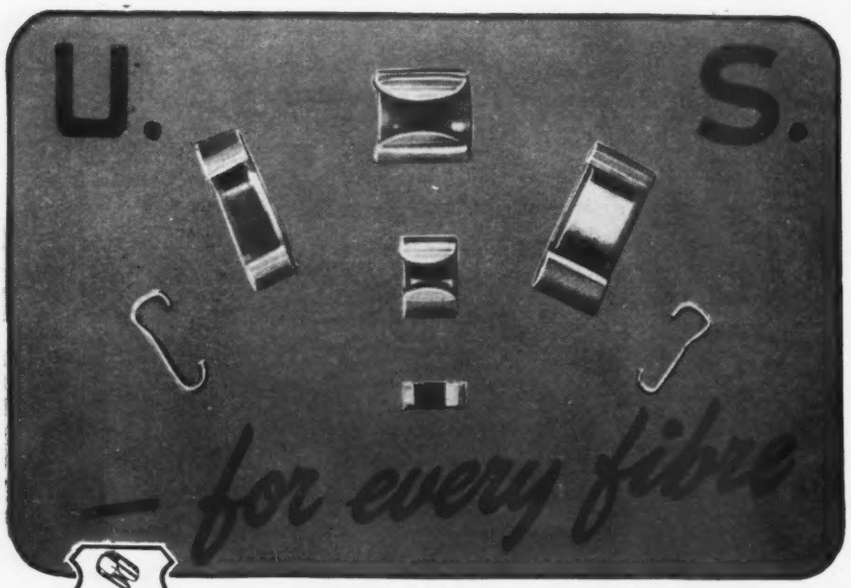
Sweet as a Boudoir

But keeping the air sweet is not all that Deodoroma does. It drifts below the nose level, and crowds out offensive odors. Especially useful in lavatories, Deodoroma also drives away almost all objectionable smells whatever they are or wherever they're found. Its permanence is an especially useful feature. One refill is good, on the average, for 90 days' service. Write us for the Deodoroma booklet describing Diffuseurs, refills and scents—or let a Dolge service man demonstrate at your plant.

The C. B. DOLGE CO.
WESTPORT, CONNECTICUT

Deodoroma

REFILLS deodorize 3 Shifts a day



U.S. RING TRAVELER CO.

Bowen Square Point Travelers
Bowen Round Point Travelers
Bowen Improved Vertical Bronze Travelers
Bowen Patented Bevel Edge Travelers
Bowen Flat, Oval, Round Wire Travelers
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Uniform U. S. Quality

"U.S." Traveler Quality and Uniformity for any given requirement NEVER VARY. This is the result of constant checkup, scientific production control and meticulous record-keeping that enables us to duplicate your order exactly—days, weeks, months or YEARS later. "U.S." means LEADERSHIP in its field.

U. S. RING TRAVELER CO.
AMOS M. BOWEN
President and Treasurer
PROVIDENCE RHODE ISLAND

higher spinning production than is possible with a higher draft. With lower draft, high spinning production is assured, but it does not always produce so strong nor so even a yarn as does a 1.4 draft.

For wool and rayon blends, a draft of 1.3 has been the most satisfactory with regard to spinning production and quality of yarn. We are sure that generally good results can be obtained with these drafts. However, the work on drafting is not complete and no doubt much valuable information will be gained through further experimenting.

TWIST MULTIPLES. In general, it may be stated that an all-rayon yarn requires less twist than an all-wool yarn. To be specific, rayon's peculiar affinity for twist allows a 100% rayon yarn to be spun with 15 to 20% less twist than an all-wool yarn of comparable size and quality; and the rayon will show a higher breaking strength. A 50% wool and 50% rayon blend can be spun with 10% less twist than a comparable all-wool yarn. For a warp yarn, where strength is necessary, a twist multiple of 2½ times the run will be suitable. For example: a 3-run yarn would require 2½ times 3 or 7½ times per inch. A twist multiple of 2 times the run is sufficient for filling yarn, as a softer yarn is more desirable.

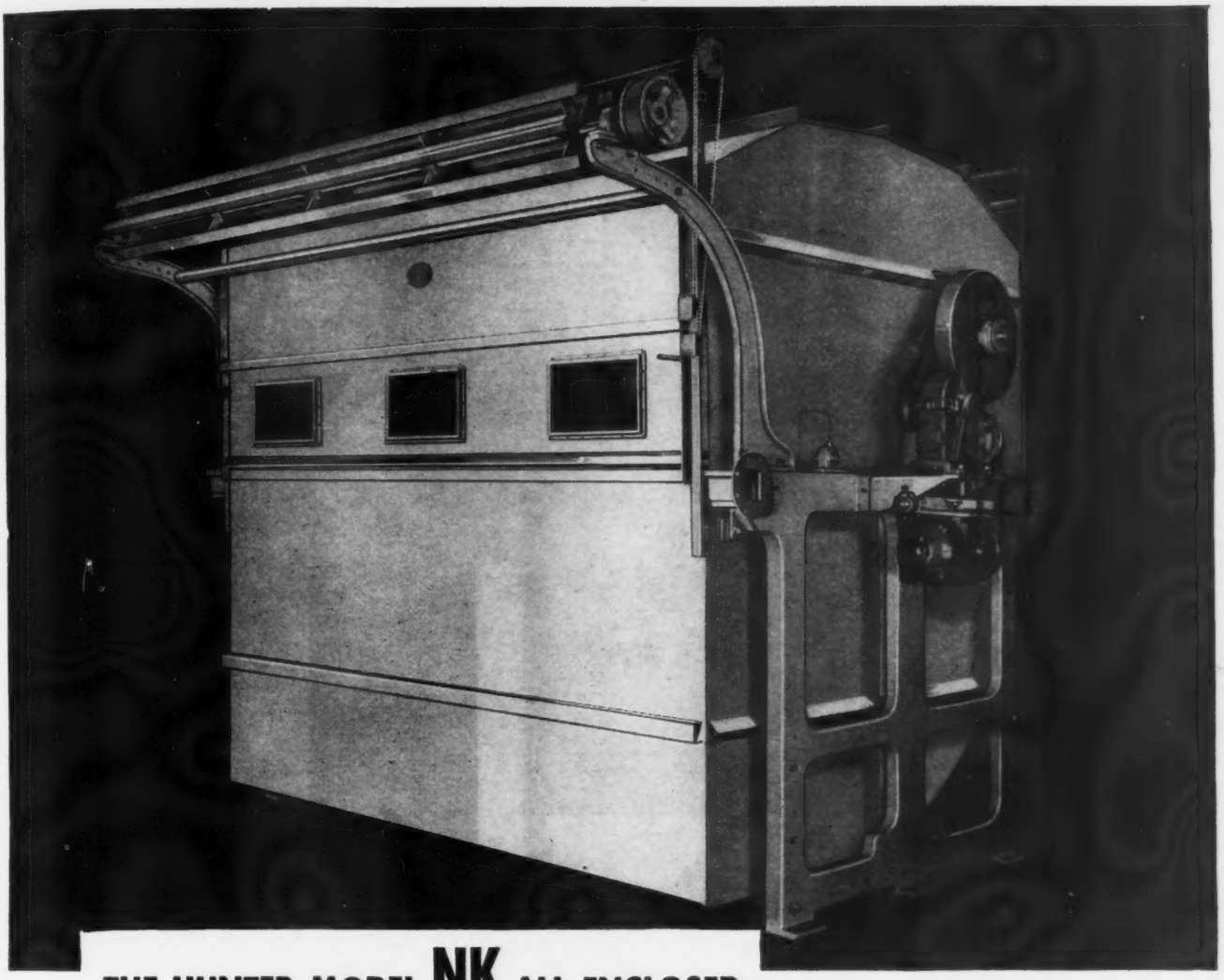
It has been noted that 100% rayon yarn processed on the woolen system shows the following differences when compared to 100% woolen yarn:

1. A more even yarn.
2. A stronger yarn.
3. A yarn with less elasticity.
4. A yarn with less extensibility.

The reader may notice that we have pointed out the differences between rayon yarn processed on the woolen system and 100% wool yarn, rather than the advantages or disadvantages of either. That is because we consider each as a textile product in its own right, suited to widely different uses because of their widely different characteristics; and we do not consider one as a substitute for the other. This trend of thought is becoming more pronounced with each improvement and with each new use for rayon staple. More and more it is being thought of as a versatile synthetic fiber and less and less as a substitute for any natural fiber. Its suitability for blending with wool is now well known and widely employed. As each day of research is completed, one may look for more improvements in rayon staple and the perfection of new types of rayon staple made especially for blending with wool. One will find that to be adept in the processing of rayon will be a distinct advantage.

In this and preceding articles, we

(*Continued on page 216*)



THE HUNTER MODEL NK ALL ENCLOSED STAINLESS STEEL PIECE DYE KETTLE FOR MODERN DYEING AND BLEACHING

Illustrated on this page is the newest Hunter addition to modern dyeing and bleaching requirements. Its many features affords the user these distinct advantages:

a. Vibrationless construction: all driving and driven members supported in newly designed separate frames.

b. Vari-speed drive for main reel for increased flexibility.

c. A size and type for any piece dyeing or bleaching requirements.

d. A tight top enclosure which is windowed and lighted, saves up to 35% of steam for the dyeing cycle. Entire Kettle may be insulated if required.

e. Proved performance on fabrics ranging from mohair plushes, woolens, worsteds, unions and blankets to spun rayons, etc.

If you contemplate replacing or expanding your present dye house units, it will pay you to ask Hunter for details. Simply write for our new bulletin today.

JAMES HUNTER MACHINE CO.

NORTH ADAMS, MASSACHUSETTS, U.S.A.

FOUNDED 1847

ABBOTT AUTOMATIC WINDERS

Winding Average hourly production per operator 900 to 1000 bobbins per hour

2-oz.	Bobbin	.....112 lb. hr.
3-oz.	"	.....169 " "
4-oz.	"	.....224 " "
5-oz.	"	.....280 " "
6-oz.	"	.....338 " "
7-oz.	"	.....380 " "
8-oz.	"	.....448 " "

These production figures are being obtained in mills throughout the United States and Canada, and show the lowest direct labor cost of winding.

In addition there is a great saving in floor labor to supply the winders with spinning bobbins and remove wound cones or cheeses.

Supply bobbins are dumped by the doffers into a box at floor level. A lever is pushed and the box is lifted and dumped automatically into a big hopper. These are large enough to eliminate any other storage of yarn. There is no trucking of yarn up and down winder alleys and distributing it along the machines. It is all fed in at one point. Similarly cones are all doffed at end of winder, and move directly into warper creels or to twisters or automatic quillers.

ABBOTT MACHINE COMPANY

WILTON, N. H.

Southern Representative, Mr. L. S. Ligon, Greenville, S. C.

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Just as improved textile processes are replacing out-moded types, so is NON-FLUID OIL, the modern lubricant, replacing ordinary liquid oils and common greases in most progressive mills.

Non-Fluid Oil Offers A Double Saving

1. Because NON-FLUID OIL does not drip or leak, it effects a reduction in oil spots on yarns and finished goods that is many times greater than its own cost.

2. NON-FLUID OIL also saves on lubricant and application cost—by outlasting ordinary liquid oil 3 to 5 times.

You cannot afford to overlook the many advantages being derived by other mills from the use of NON-FLUID OIL.

Check These Advantages

Highly adhesive—every drop of NON-FLUID OIL stays right where it's needed to do a full-time lubricating job. When you use ordinary oils, two drops drip away for every drop that gets in where oil is needed. You pay for three gallons of oil, but only one gallon really does its stuff. NON-FLUID OIL ELIMINATES this waste!

Keeps bearings cooler—thus evidencing that NON-FLUID OIL holds friction in check more effectively than ordinary oils or greases, minimizing wear and power loss. Write today for informative bulletin and testing samples.

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KEEP ALL YOUR FLOORS *Clean* AND *Slip-Safe*

Left—HILD Tank Type Shower-feed Floor Machine

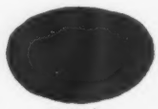
Right—HILD Plain Handle (Standard) Floor Machine

HILD Floor Machines are designed for use with the easily interchangeable attachments pictured below to condition and maintain floors of all kinds . . . either in the mill or in office areas. Scrubbing with the Tank-Type Machine and the patented HILD Shower-feed Brush gets floors cleaner with less scrub-soap solution . . . cuts soap costs . . . does not splash water on machinery or furniture. Scrub-soap solution is fed from the tank on the handle of the HILD Floor Machine to the back of the Shower-feed Brush . . . then passes through accurately spaced holes **penetrating the brush back between each row of bristles.**

HILD Floor Machines speedily scrub open areas in lanes between machines . . . yet are easily guided into hard-to-reach spots under and around machinery. They are sturdily built for long, trouble-free **service.**

HILD Shower-Feed Brush

Brush for Waxing or Polishing



Polishing Buffer

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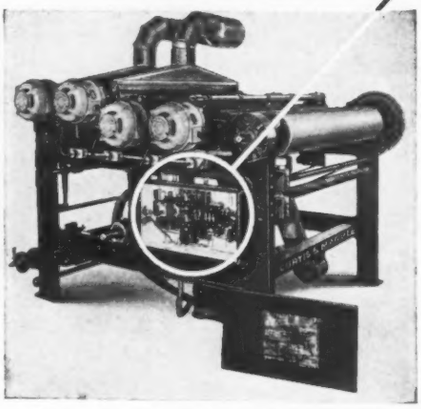
NEW ELECTRONIC CONTROL for Type CMR Automatic Shear



From the wonder science, Electronics, comes this remarkable timing device which is now included in the Automatic Seam Protector on Type C M R Shear. It is the latest of a series of improvements brought about to keep C M R Shear the most efficient machine for removing surface and selvage threads. Ask us more about it!

Curtis & Marble
MACHINE COMPANY
WORCESTER, MASSACHUSETTS.

(*Continued from page 210*)

have discussed those problems which are most likely to be encountered in the processing of rayon on the woolen system. We have made suggestions and provided solutions that are simple and effective. We have pointed out those instances where special care should be taken if best results are to be obtained.

It is hoped that our experience may be of some help in furthering the work being done with rayon on the woolen system. It is evident that when properly handled, rayon and rayon blended with the majority of textile fibers in use today can be processed with fewer operations and at a higher rate of production-efficiency than most of us would formerly have thought possible.

Stroboscope

(*Continued from page 135*)

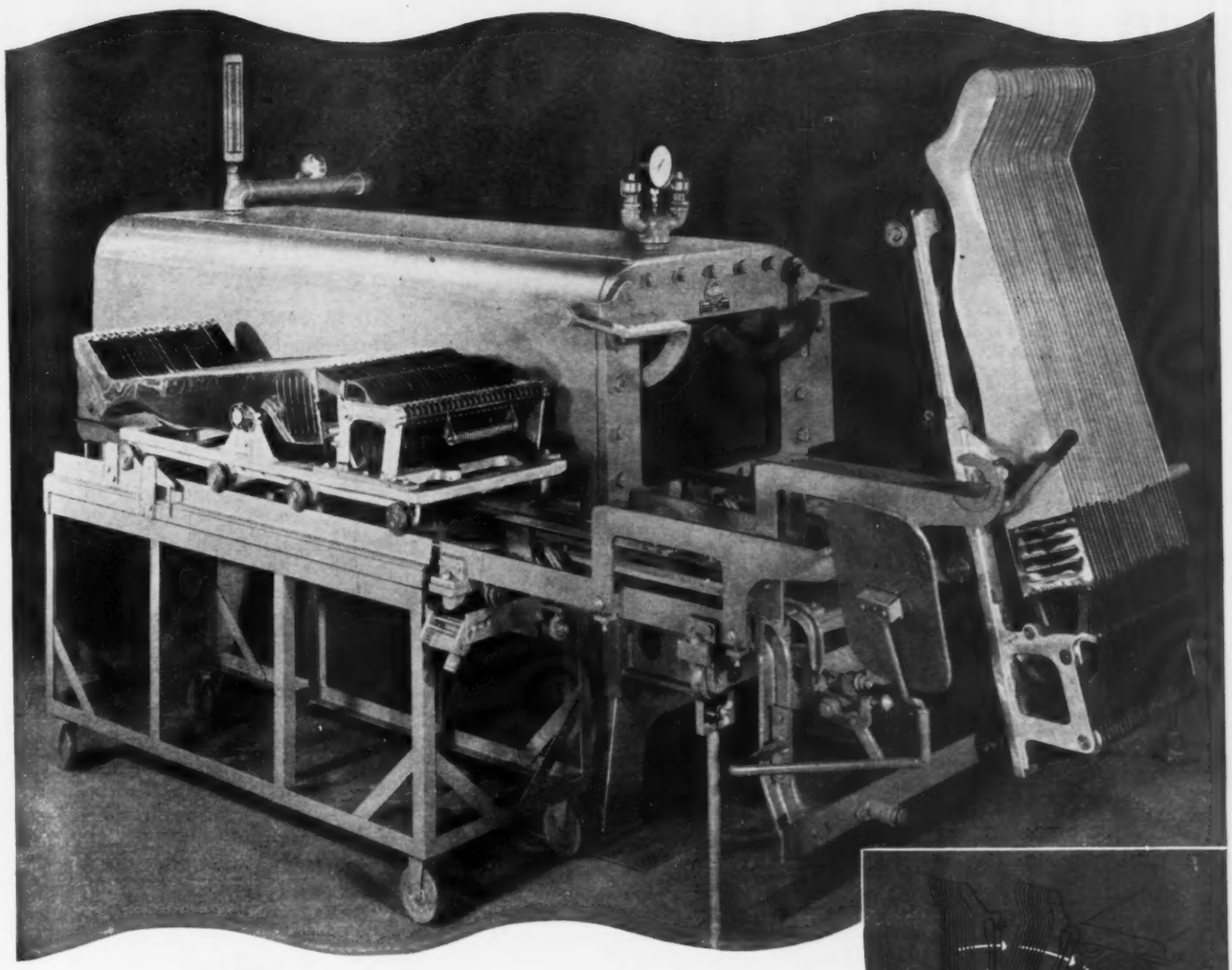
centrifugal force generated by the unbalanced weights. For example, think of the force generated by a 4-oz. weight moving in a 1-ft. circle at 12 r.p.m. The centrifugal force exerted by this weight increases proportionally with the square of the speed.

The commercial stroboscope usually in use in mills has a dial on it with which to "tune" the machine for various speeds of flashing and also a place to connect a contactor, usually a receptacle in the side of the unit. If a pair of wires are connected to this receptacle and touched together, the light will flash once. If your machine has this connection, you can easily do dynamic balancing with it.

HOW TO BALANCE. Mount two bearings on fairly stiff springs and provide a means for driving the rotating part. Connect one of the wires from the stroboscope to the bearing, and connect the other wire to a contact. This contact should be rigidly mounted to something and arranged so that it can be screwed up to the vibrating bearing when the rig is running. Put in the rotating part and paint some marks or numbers evenly spaced around its circumference. Bring the part up to enough speed to get a good wiggle in the bearing, and set up contacts until the lamp starts flashing.

If the stroboscope is on the same side of the bearings as the contact, the number seen as standing still on the shaft will mark the position of the heavy spot on the shaft's circumference. Start putting balancing weights on opposite the heavy spot, and continue until the vibration is balanced out to the fineness you think will run all right. Commercial balancing machines use this same type of arrangement, but they are usually graduated in ounces unbalance.

To make the necessary calculations,



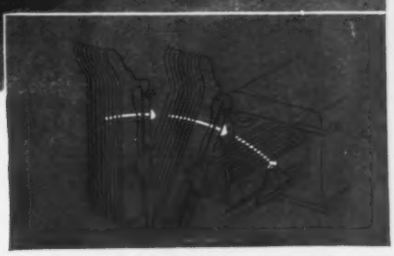
Paramold

24" RETORT

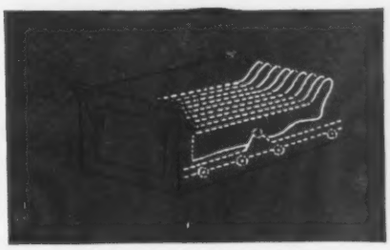
SINGLE-OPERATOR NYLON PROCESSING MACHINE
Modern AUTOMATIC FEATURES for Smoother Performance!

- Hydraulic Controls for opening and closing the door; operating feed and exhaust valves.
- Form Carriage is automatically discharged from Retort, righting itself to boarding position.
- Cycle of operation automatically timed.
- Truck permits quick change of entire battery of forms.

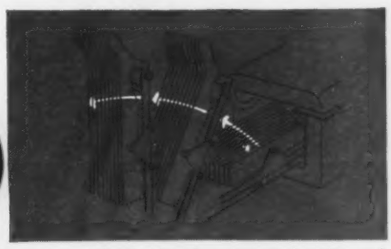
These top interest improvements, PLUS snag-proof, Stainless Steel Forms and Self-Sealing Door for SAFETY!



Form Carriage trips automatically and is lowered to horizontal position on rails. A slight push sends carriage into Retort.



After forms have entered Retort, door closes automatically and setting of hosiery begins.



After hosiery is set, steam is exhausted, door opens automatically, and forms are discharged, automatically righting themselves to working position.

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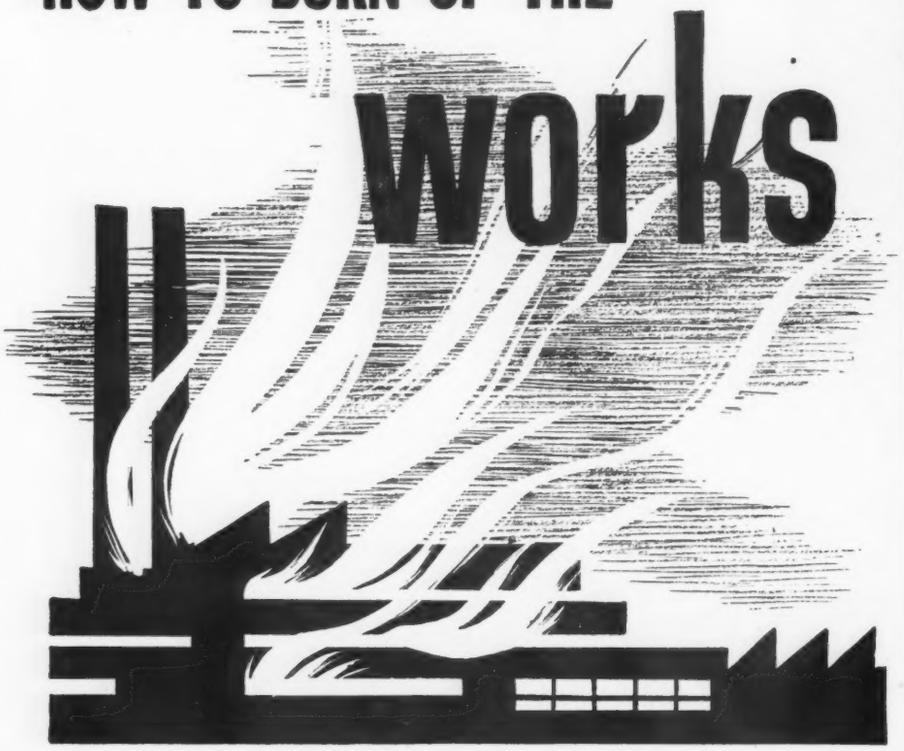
FACTORY—KANKAKEE, ILLINOIS • CABLE ADDRESS PARFORM

Manufacturers of — PARAMOLD RETORTS • DUNN PRESETTING EQUIPMENT • WOMEN'S HI-SPEED HOSIERY FINISHING MACHINES • WOMEN'S DUAL HEAT HOSIERY FINISHING MACHINES • AIR-COOLED HOSIERY FINISHING TABLES REGULAR HOSIERY DRYING FORMS • FABRIC HOLDERS • PARAFLEX CHANGEABLE CONTOUR & SIZE FORMS • HOSIERY INSPECTION MACHINES • LOOPER CHAIN CUTTING ATTACHMENTS • DYEHOUSE FORM UNITS

HOW TO BURN UP THE Works



THROW WATER ON MOLTEN MAGNESIUM

Burning magnesium metal doused with water may cause a violent conflagration. Other fire extinguishing methods may be equally impotent. *But there is an effective way to control a magnesium fire.* Pyrene G1 Powder has been specially developed and prepared to extinguish fires in burning metals such as magnesium, sodium and potassium. Easily applied with either a shovel or machine.

or USE IMPROPER EXTINGUISHER
ON OIL AND GASOLINE FIRES

Pyrene Foam made at the nozzle of Pyrene Playpipe smothers fire in burning liquids. One man does the job with a hip-pack of air foam and just hydrant or salt water. Fast, safe, certain and most economical.

or THROW WATER ON ELECTRICAL FIRES

Use a Pyrene Vaporizing Liquid extinguisher — a one-quart pump type to a one-gallon pressure type — depending upon size of fire. It's safe because it's a non-conductor.

STANDARDIZE ON PYRENE PROTECTION

Control of fire in all its phases has been Pyrene's business for almost 40 years. There are specific Pyrene Fire Extinguishers for different classes of fires. A Pyrene jobber will be glad to help you determine your fire hazards and advise best methods for protection from them.

Pyrene Manufacturing Company
NEWARK 8 NEW JERSEY
Affiliated with the C-O-Two Fire Equipment Co.

find out how much weight it takes to deflect the spring-mounted bearing various amounts, calibrate the contacts, and read the ounces unbalance. Usually, however, the cut-and-try method is used, as this kind of mathematics is cumbersome unless used every day.

On rotating parts over a foot or so in length that operate at 1200 r.p.m. or faster, it will be well to check the balance on both ends.

OTHER USES. The stroboscope, can also be used to check on clutch slippage; to watch motor-speed change under load variations; to observe the commutator bars on turbine exciters in order to see how well the governors hold speed under load changes (the bars appear to move backward and forward with an insensitive governor); to see the action of beater blades on the stock in cleaning machines; to check on fan-blade vibration; and where conditions for observation are right, to spot the frequency of some "wild" vibration in a machine or structure as an aid in running down the cause of the vibration.

Most stroboscopes use a neon-type flasher bulb giving a red light at a rather low intensity. It is hard for the human eye to distinguish details on objects viewed under light from the red end of the spectrum, and this light is so low in actinic value that it cannot be used easily for taking photographs. There is available, from one manufacturer at least, a high-intensity light source using a mercury-arc-type tube that gives ample light for detail seeing and photography.

Gelatin Grades

(*Continued from page 143*)

from certain chemicals in the mixing room or it may unintentionally be created on the yarn during drying. This condition is usually avoided by keeping heats low, especially on the first two cylinders of the slasher where the yarn is still saturated with solution. When large amounts of steam rise from the first two cylinders, it is a danger signal. This means that water is being evaporated too rapidly, and the size is being thrown out into the air with the steam. High drying heats will do this cooking or caramelizing of the size, so that it cannot be removed from gray goods without powerful detergents which may damage the yarn.

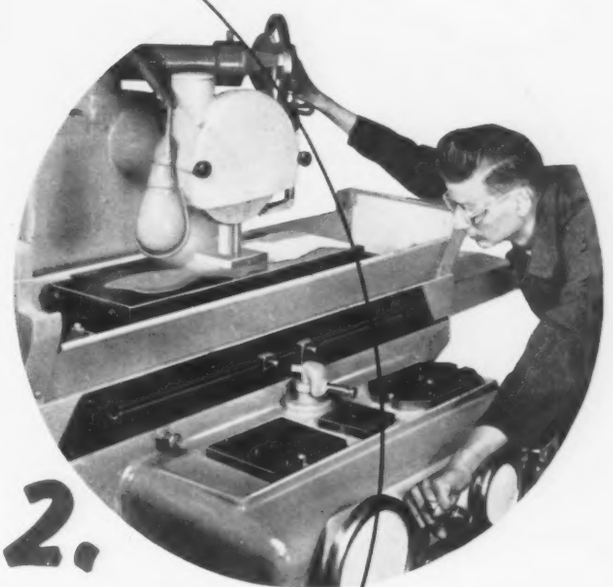
Another problem often encountered is foaming. This is caused largely by the necessary adoption of softening substitutes for sulphonated olive oil. It has also been found that foaming comes from ordinary mechanical causes and

(*Continued on page 219*)

Make your plant more efficient with DU PONT COLOR CONDITIONING

1.

BEFORE COLOR CONDITIONING— No contrast between machine and work in process—Entire area is camouflaged—Poor use of light. RESULT—worker's eyesight is penalized, efficiency impaired, frequent accidents and low morale.



2.

WORKING AREA "SPOTLIGHTED"— Proper contrast between machine and work in process improves seeing conditions and increases output. BUT—glaring wall causes glare, fatigue and does not provide full efficiency or safety.

How this new, scientific painting plan helps you boost production and raise employee morale

Improve operating efficiency in your plant—with Du Pont COLOR CONDITIONING. Years of proving in typical industrial plants throughout the country are your assurance of positive results. For COLOR CONDITIONING is practical and functional. It helps you select and apply the right colors where they are needed. It is the first complete program to coordinate the principles of brightness engineering, human engineering and safety engineering into a simple, workable plan. Front office, shop area, cafeteria, washroom—COLOR CONDITIONING applies to all. Plan now for a more efficient, more productive, safer plant. Call in a Du Pont Paint Engineer or write: E. I. du Pont de Nemours & Co. (Inc.), Finishes Division, Wilmington 98, Delaware.

3.

FULLY COLOR CONDITIONED— Walls painted in correct colors relieve eyestrain, increase efficiency, raise morale. White ceilings reflect maximum light without glare. RESULT—Production goes up in this comfortable, cheery atmosphere. Workers are happier, safer and painting pays dividends.

DU PONT

REG. U.S. PAT. OFF.

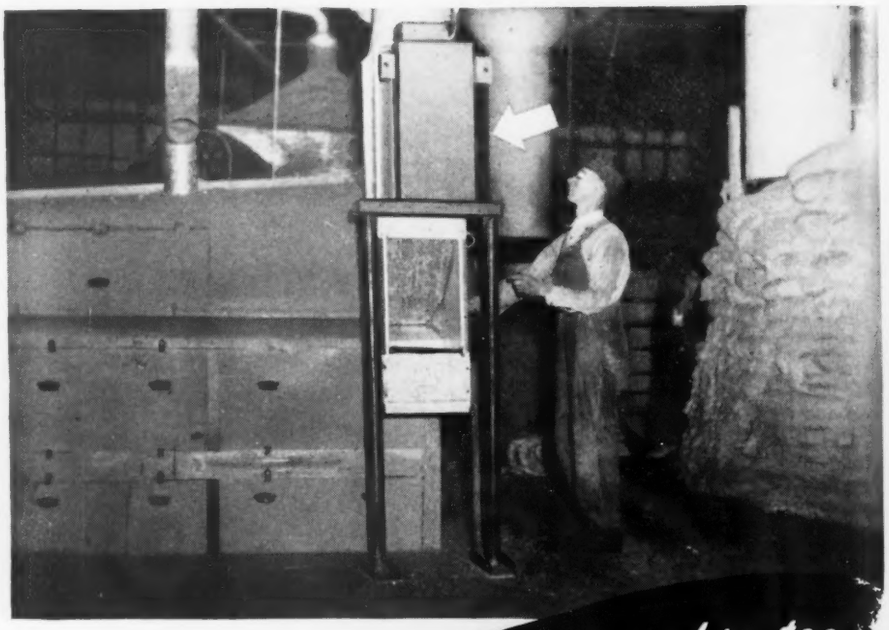
BETTER THINGS FOR BETTER LIVING

...THROUGH CHEMISTRY

A DIRECT REDUCTION IN FIRE LOSSES of $1,250

in 6 months

with a Dings TEXTILE MAGNET

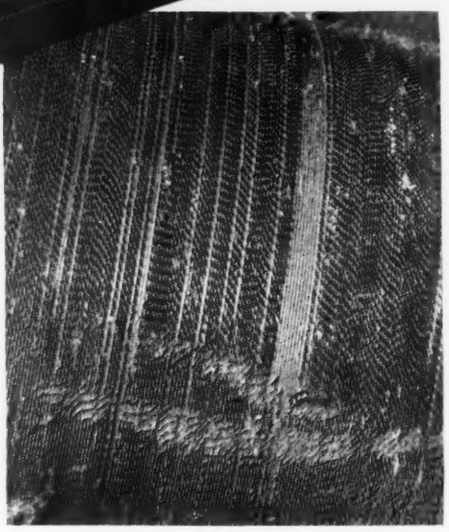


Saves loss like this, too

In the year preceding installation of a Dings Textile Magnet, one large cotton mill had 12 fires, costing an average of $250 each—or $3,000 total. In six months after the Dings Magnet went to work, only one small fire occured—a direct loss reduction of $1,250!

Whether your fire losses are on a scale like this or not, *any* fire loss or equipment damage in textile mills or bedding plants is certain to be far more expensive than the low cost operation and maintenance of a powerful Dings Textile Magnet. Insurance companies say that 76% of opener-picker fires in textile mills and 70% of bedding plant fires are caused by foreign substances (mostly tramp iron) in the stock.

Can you actually afford less than the best protection available! Write Dings for complete details today.



Tramp iron ripped the teeth out of this garnett roll—and the cost of replacing it would have gone far toward providing positive, permanent protection against damage to all equipment with a Dings Textile Magnet.

Dings Magnetic Separator Co.
540 E. Smith Street
Milwaukee 7, Wisconsin

Dings

"HIGH INTENSITY"

"Separation Headquarters Since 1899"

(Continued from page 216)

from the pH of the softening agent used. Goods in which sulphonated castor oil with a pH of 7.5 was used developed little or no foam if the solution was held at 60° to 65° C. (140° to 150° F). But at lower temperatures than this range, foam developed. Tests indicate that the best results are obtained by use of softening oils with a pH well above 6.2.

Another apparent cause of foam formation was discovered in the rollers which run through the gelatin glue. When these are of rubber, there is seldom a tendency to foam except from some other cause. But when the lower roller has a facing of ½ to ¾ in. felt, there is almost invariably trouble from foam caused by the tendency of the felt to pump air into the mixture as the felt roller is compressed and expanded. A third cause of foam has been found when gelatin is put into solution with hot water instead of giving the gelatin the usual preliminary soak in cold water, followed by melting with heat. In general, if other causes are not present, there will be no foaming trouble if the gelatin is stirred into cold water for at least 15 minutes, then melted at 140° F. Tests on gelatin solutions prepared by the "hot water method" show that the viscosity may be reduced at elevated temperatures.

Size spots or "tear drops" in the slashing of rayon warps refer to spots where adjoining threads of the warp are bonded together by the size. In passing through the split bars, the adjacent warp ends are ripped apart where such a size spot is encountered, causing a defect in the woven fabric. This spasmodic trouble has been perplexing to many operators, as it shows up unexpectedly at times and, before the real cause of the difficulty is located, the condition itself may disappear.

The major cause of size spots, when using an animal-glue base, is the fact that very fine particles of undissolved dry size are present in suspension in the size pan of the slasher. As the quetsch rolls revolve, the gum-like particles are picked up and squeezed upon the warp, forming a tiny size spot or "tear drop" tenaciously bonding together two or more adjacent yarn ends. This condition is likely to be more prevalent in those mills using fine-ground, dry animal-glue size for quick easy make-up of the sizing formula.

Correction of this condition is quite simple. Care should be taken that all dry size particles are wetted out and thoroughly dissolved. The completed size should always be strained through a clean layer of cloth resting upon a fine wire filter funnel for retention of an occasional undissolved particle. This simple filter arrangement is generally

OUT OUR WAY

HERE, HERE! WHAT DOES THIS MEAN?
ASK HIM-- HE KNOWS! HE'LL TELL YOU ALL ABOUT IT-- I'M NOT TALKIN'!
WHY, THAT DUMB FAT-HEAD! KICKIN' THAT KID RIGHT IN FRONT OF TH' BOSS!
YEH, DUMB LIKE A FOX! THREE TIMES THIS WEEK HE TOLD TH' KID TO SPREAD SPEEDI-DRI UNDER HIS MACHINE, BUT TH' KID DIDN'T DO IT--SO HE WAITED UNTIL HE SAW HIM WITH TH' BOSS SO NO ONE CAN SAY HE'S A RAT, SQUEALER ER TATTLE-TALE! TH' KID WILL DO HIS OWN SQUEALIN'!
T. M. REG. U. S. PAT. OFF. COPR. 1946 BY NEA SERVICE, INC
DIRECT ACTION
J.R.WILLIAMS

Men who work with machines *like* SPEEDI-DRI . . . they *know* the danger present when floors are glaze-slick with oil- and grease-deposits, just waiting for an unwary step. They like SPEEDI-DRI because it lays a carpet of safety underfoot . . . making all types of floors safe for walking, safe for working. And when SPEEDI-DRI is swept-up, it takes with it all grease- and oil-sludge. In time, it will bring up even ancient deposits . . . leaving floors as clean as an old maid's kitchen.

In addition, SPEEDI-DRI . . . the granular, oil-thirsty absorbent . . . is economy-wise! No complicated machinery . . . no trained personnel . . . is required to apply SPEEDI-DRI. Because *one* man can do all the work necessary with SPEEDI-DRI, it releases cleaning-personnel for other, more productive work. It pushes production *up*, by keeping men on the job . . . free from the hazards of slips and falls. In addition, SPEEDI-DRI reduces the danger of flash-fires . . . for SPEEDI-DRI will not readily burn, even when oil-soaked!

SUPPLIERS:

East— Safety & Maintenance Co., Inc., New York 1, N. Y.

South, Midwest & West Coast— Waverly Petroleum Products Co., Philadelphia 6, Pa.

Get the full story of SPEEDI-DRI today. Just write "SPEEDI-DRI" on your letterhead or business card for complete details and a free, generous sample.

SPEEDI-DRI

OIL AND GREASE ABSORBENT

COFFING HOISTS are designed to give sturdy, dependable, efficient, long-time service. They are light-weight, portable hoists and each type has its place in industry, whether it be construction, production, or maintenance work. For complete information see your local supplier or write for our Bulletin Form J3.

"Safety-Pull" Ratchet Lever Hoist

"Quik-Lift" Electric Hoist

Spur Geared Chain Hoist

COFFING HOIST COMPANY
RATCHET LEVER HOISTS - SPUR GEAR HOISTS - ELECTRIC HOISTS
LOAD BINDERS - DIFFERENTIAL HOISTS - TROLLEYS
DANVILLE, ILLINOIS

DRAPER *Dependable* SOAPS

For more than 85 years, DRAPER has been providing better soaps for better fabrics.

The Textile Industries long have known that "Depend on DRAPER" has real significance, for the users of DRAPER Dependable SOAPS are producing better cloth.

Write for a demonstration of DRAPER SOAP *quality*.

DRAPER SOAP CO.
DIVISION OF CONTI PRODUCTS CORP.
171 Front St. Tel. No. Perry 1806 Pawtucket, R. I.

placed at the size inlet pipe to the slashing pan, permitting changing the filter cloth as required.

A peculiar condition resulting in a repeating pattern of a size spot upon the warp can be traced to a dirt particle or a thin layer of dried size film becoming imbedded in the quetsch roll-covering —every revolution of the roll "prints" a size spot upon the warp until the particle has become dislodged. A device for maintaining a constant level of size in the slashing pan will eliminate this type of difficulty. Close attention to general cleanliness, with particular reference to a clean slashing pan, is good insurance as well as good housekeeping.

Soap in Processing

(*Continued from page 151*)

there is a surface deposit of dyestuff on the fibers and this is removed by thorough soaping to give added clarity to the shades. In addition to this effect, there are instances where the true shades are not developed in the absence of vigorous soaping. Vat blues, for example, may easily be over-oxidized in dyeing to give greener tones than normal. Strong soaping, with perhaps a very slight addition of a reducing agent like glucose, will bring up the true shade. Of course, too much reducing agent may swing the balance in the opposite direction but this can be avoided. All vat and solubilized vat dyeings are given a soaping at the boil in normal processing with resultant additional brightness.

Thorough aftertreatment and soaping is of vital importance in azoic dyeing, not only from the standpoint of shades, but also for the production of the fastest possible dyeings. Rinsing for removal of excess diazo solution from freshly developed dyeings is the first step. Where aluminum sulphate has been used as alkali binding agent in the developing bath, a light sour is necessary prior to soaping. Neglect in this regard may lead to formation of insoluble soaps with further complications in the form of decreased fastness to rubbing of the finished dyeings.

The true shades of some azoic dyeings, notably browns and blues, are not obtained without soaping at the boil. It is generally accepted that vigorous but limited soaping at the boil produces the best all-round dyeings for shade, brightness, and fastness. The rubbing fastness is of particular interest in this class of dyeing.

It has been shown that soaping at the boil for short periods causes a migration of color particles to the interior of the fibers with increased fastness to rubbing. On the other hand, it has been main-

(*Continued on page 224*)

WHEN THE JOB DEMANDS *SUPER QUALITY*

SPECIFY

DEVOE MARBLE FLOOR VARNISH

A *Post-war* PRODUCT

DEVOE'S *NEW* and *IMPROVED* varnish that dries *quicker, wears better,* is *impervious* to hot water!

ACCLAIM FROM THE EXPERTS! The experts who analyzed DEVOE MARBLE FLOOR VARNISH—engineers of product quality who subjected this amazing new varnish to the most grueling tests—applauded the product in these words: "Acceptable in all dominant characteristics as meeting requirements of a *super-quality floor varnish* possessing a definitely *new order of drying speed,* ultimate toughness and alkali resistance."

New Devoe Marble Floor Varnish did **not** "just happen." It is the result of patient, far-reaching exploration and research for a number of years in quest of the finest floor varnish man can make. New, thoroughly tested raw materials have been added to old-time favorites by specialized manufacturing techniques exclusive with DEVOE to produce MARBLE FLOOR VARNISH.

DRIES IN 4 HOURS

Check these quality advantages!

- *Dries fast! Dust-free in 1 hour—dry in 4 hours!*
- *Withstands severe wear. Traffic tested!*
- *Resists hot water!*
- *Achieves jewel-like lustre!*
- *Resists alkali (5% caustic tested). Scrubable!*
- *Wears inside or out!*
- *Clear—accentuates beauty of grain of wood.*
- *Extremely practical—brushes easily—has no objectionable odor.*
- *New DEVOE label, adopted 1946.*

Specify DEVOE MARBLE FLOOR VARNISH the next time you need a protective coating for wood or linoleum floors.

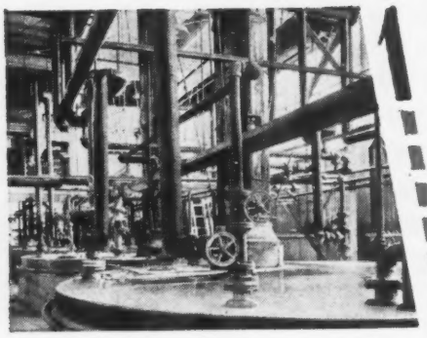
DEVOE PAINT

787 FIRST AVENUE • NEW YORK 17, N. Y.

The 1, 2, 3 OF LICKING YOUR ACID PIPE PROBLEMS

The problem of controlling corrosion in the conveying of acids and other corrosive solutions is tough enough to begin with. But it is further complicated by such factors as elevated or fluctuating temperatures, pressure, vacuum and vibration or other mechanical stress of equipment.

That's why National Lead—as a result of its years of experience in every field handling corrosive solutions and gasses—makes available to you the wide variety of pipe described below. And why we offer you the first-hand "know how" gained by our technical staff from thousands of installations, to help you select the right pipe for every acid-conveying job.



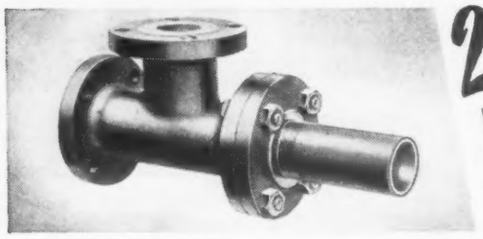
Making acid toe the line . . . Chemical Lead Pipe and Fittings employed in connection with a battery of digestors in a large industrial plant.

1 **Lead Pipe.** Widely used throughout industry is our standard Chemical Lead Pipe. Made of highly pure lead, it has a long record of successful applications. Like all of our lead pipe and pipe lining, it is fabricated by an extrusion process which assures uniform wall thickness, free flow and freedom from porous or defective spots.

Other highly useful types are made by alloying small amounts of other metals with the chemical lead.

For example, there is Tellurium Lead Pipe. This has added corrosion resistance at high temperatures and the ability to toughen and increase its tensile strength under mechanical stress. Still a third property—due in part to its capacity to work-harden—is a higher endurance limit and therefore greatly improved resistance to failure under vibratory stress.

Again, there is Antimonial Lead Pipe, made with a base of either chemical or Tellurium lead. When the antimony content is 6%, this insures a mechanical strength about twice that of chemical lead. And the greater hardness also means improved abrasion resistance—a real advantage where erosion is a problem. Recommended only for temperatures below 240° F.

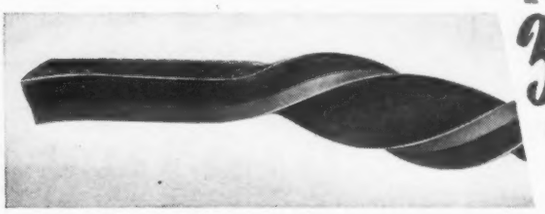


The strength of steel or iron, plus the corrosion resistance of lead . . . twin advantages of this "United" Lead-lined Pipe. Note the uniformity of the lead lining.

2 **Cold Expanded Lead-Lined Pipe.** Where the strength of iron or steel is needed—for example, to withstand pressure or other mechanical stress—our "United" Lead-lined Cast Iron or Steel Pipe has proved highly serviceable. It has the outer strength needed plus the inner resistance of its lead lining to corrosion.

The lining is fabricated in continuous lengths of uniform, seamless pipe, then cold expanded inside the iron or steel tube. This assures a tight fit and a lining smooth, uniform and free of defects.

Cold Expanded Lead-lined Pipe, as well as the "United Tubond" described below is made in flanged sections, with the lead lining carried over the face of the flange to give a positive lead-to-lead joint. Moreover all iron and steel pipe used meets the standards of the American Society of Testing Materials.



Once bonded . . . it stays bonded! A section of "Tubond" Lead-lined Steel Pipe, twisted to prove the inseparability of the metals. Steel and lead are married to stay.

3 **"United Tubond" Lead-Lined Pipe.** To do a job where equipment must stand extreme vibration, pressure, vacuum or temperature change—National Lead has developed "United Tubond" Lead-lined Pipe. The lead lining is bonded to the iron or steel tube by a special process, so permanent that there can be no separation or creep of the lining.

As shown in the illustration, the steel or iron can be violently twisted, but there will be no let-go of the lead.

A complete line of standard lead and lead-lined fittings is available for use with the various types of pipe. In addition, National Lead manufactures lead-covered pipe to individual specifications.

No matter whether you want a single valve . . . sheet lead for lining a tank . . . or a complete acid recovery plant . . . National Lead can supply you. You are invited to consult our technical staff on any equipment problem.

NATIONAL LEAD COMPANY
111 Broadway, New York 6, N. Y.

If Acid Handling is your problem . . .

Go "National" for Lead

Offices and Plants in Principal Cities and Canada

PERKINS HOLYOKE

TRADE MARK REG.

For the Textile Industry

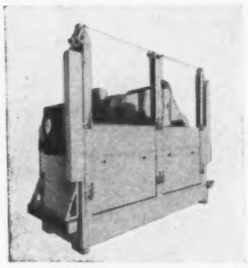
Cotton Rolls
Cotton and Wool Rolls
Combination Rolls
Husk Rolls
Paper Rolls
Embossing Rolls
Friction Calenders
Schreiner Calenders
Chasing Calenders
Rolling Calenders

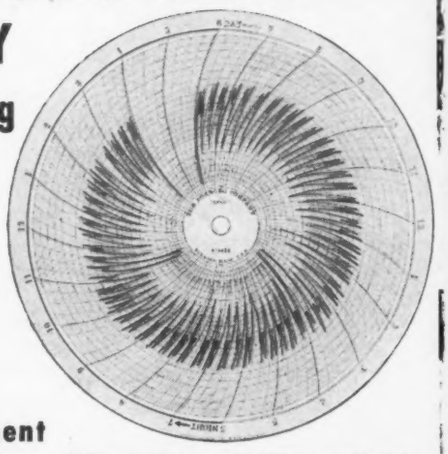
Silk Calenders
Embossing Calenders
Cloth Pilers
Drying Machines
Dye Jigs
Mangles
Padders
Squeezers
Washers
Winders

Mullen Testers

"The Fleet Line"

For UNIFORMITY in Yarn Conditioning





Use FLEET LINE Equipment

The chart shown herewith was taken from the recording instrument on a Fleet Line Yarn Steamer and Conditioner in Guerin Mills, Woonsocket, R. I., and illustrates the UNIFORMITY of operation which prevails with this machine.

This results in exceptionally uniform yarn, and the mill is able to handle filling bobbins and larger packages interchangeably. Operation is wholly automatic.

Guerin Mills is conditioning its entire yarn output with this one machine, handling 16 duck baskets, stacked in 2 levels, at one time. Each cycle on the chart means 800 lbs. of yarn conditioned.

Catalog on request

RIGGS AND LOMBARD

FOOT OF SUFFOLK ST., INCORPORATED LOWELL, MASS.

Sterling Ring Travelers

LITTLE THINGS

Profits, today, may depend on the "little things" in your mill.

The initial cost of Ring Travelers is small, but it's the result that counts.

CHECK WITH STERLING.

Southern Representatives

D. J. QUILLEN, Box 443, Spartanburg, S. C.
H. B. CABANISS, Monroe, N. C.
D. C. ANDERSON, Box 629, Cedartown, Georgia

STERLING RING TRAVELER CO.
FALL RIVER, MASS.

(*Continued from page 220*)

tained that too much soaping brings about aggregation and surface migration of dyestuff particles with decreased fastness to rubbing but increased fastness to light and chlorine. As the fastness to light and chlorine of these dyes is usually satisfactory, it is more important to adhere to the shorter and more vigorous boiling soap treatments for improvement in rubbing. The use of soft water or, in its absence, of sulphonated fatty alcohols, metaphosphates, etc., is advised for the maintenance of the dispersing and emulsifying powers of the soap liquors.

An interesting use of soap in the dyeing of animal fibers with azoic dyestuffs is that advocated and patented by Everest and Wallwork some years ago. By this method, a colloidal suspension of the naphthol is obtained by the use of boiling soap and soda and then cooling. Animal fibers can be impregnated with such solutions in the absence of caustic soda and developed with diazo components in the ordinary manner with production of satisfactory dyeings. Damage to the animal fibers is thereby avoided.

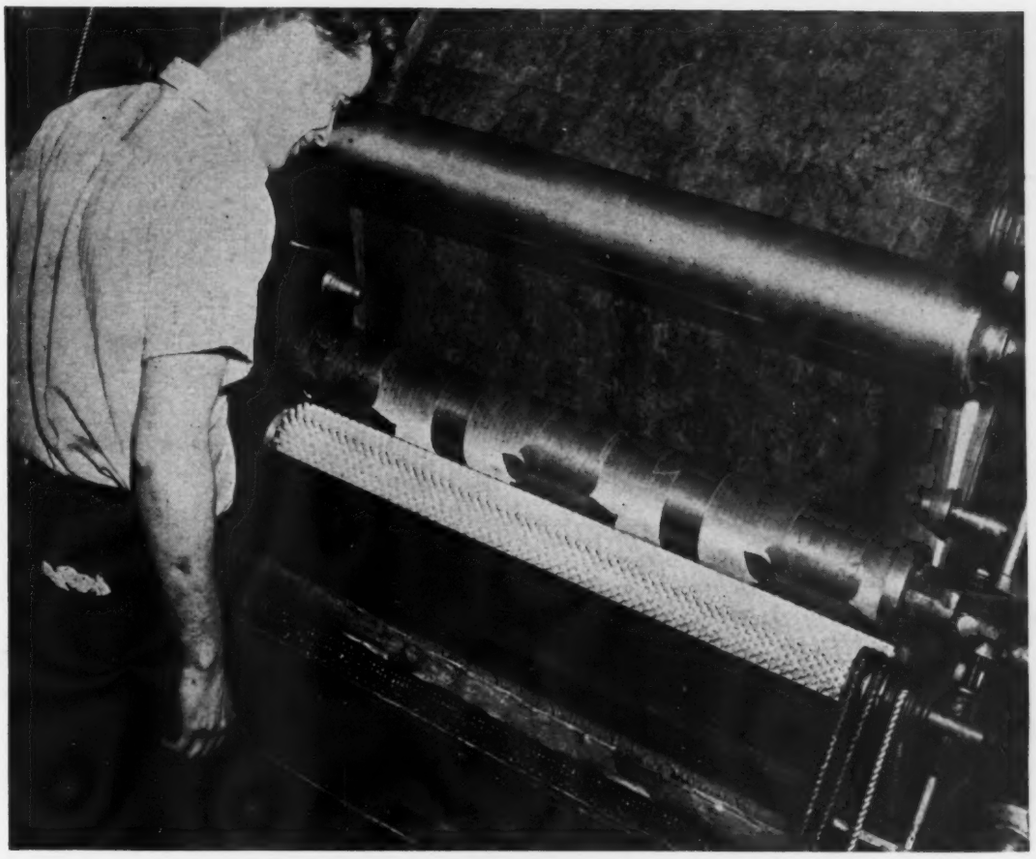
SOAPING IN PRINTING. The same reasons advocated for soaping in dyeing hold good for printing, with the additional requirement that large quantities of thickening agents be used. Soaping or washing treatments are necessary in all printed goods for the removal of thickenings, surplus dyestuffs, etc. Not all prints, however, can withstand vigorous soaping and some cannot be safely soaped at all. Thickenings in such cases are removed by de-sizing treatments if they are starchy, followed by rinsing.

Printed-goods soaping is complicated by many factors. In chrome-mordant dyestuff printing, using starchy thickenings, an insoluble starch-metallic complex is formed in steaming. This is particularly objectionable in silk and rayon goods. It has been overcome by the use of patented mordants, chromium lactate, urea in the print pastes, etc. Where large masses of these colors are printed on vegetable tissues, it may still be a difficult factor to overcome in the production of soft-handling finishes. Desizing them may be the answer, using diastatic mediums preferably after the goods have received a preliminary rinsing and soaping for the removal of excessive surface dyestuffs and thickening.

Mechanical action, such as is provided by slack washers either of the reel type or with top squeeze rollers, is helpful in the removal of surplus thickening. It should be noted that chrome mordant prints should not be soaped at higher temperature than 140° F. and the presence of alkali should be rigidly avoided. The formation of metallic soaps from

If You Insist on Top Efficiency You Will Use—

JENKINS METAL CORE CYLINDER BRUSHES



THESE FEATURES ARE UNIQUE:

1—*Cores* of cold drawn steel or aluminum, that cannot sag or split, as wooden cores do.
2—*Bristle* wound on the metal cores with flat copper wire and special moisture proof cement. Easy to clean and keep clean.
3—*Worn Bristle* can be replaced by our patented process.
4—*Nylon Bristle* is supplied when ordered, giving added efficiency and longer wear.

Jenkins Textile Brushes Include:

- **FURNISHER BRUSHES**
- **RAISING AND LAYING BRUSHES**
- **FLOCK BRUSHES, AND**
- **CLOTHROOM BRUSHES** *for shears and brushing machines*

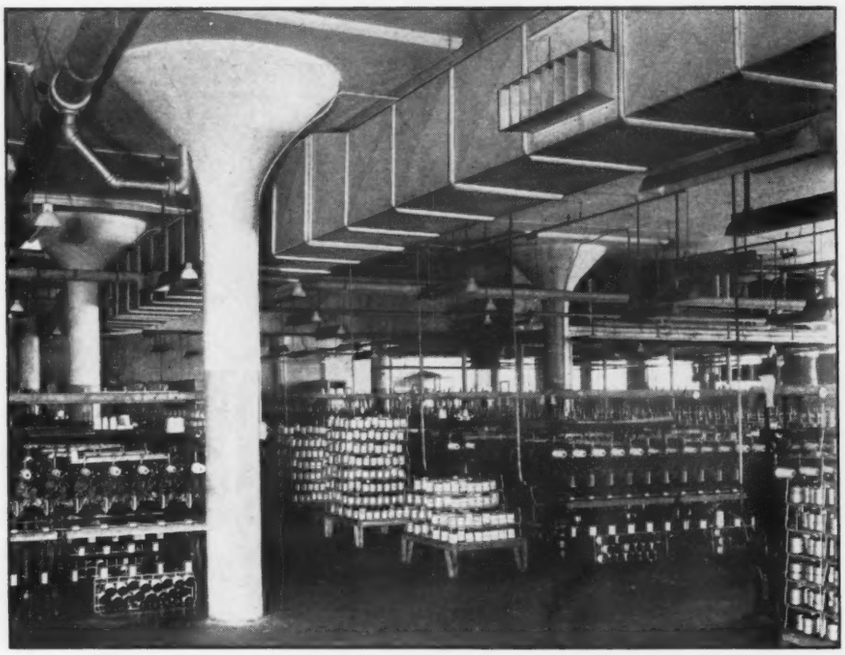
M. W. JENKINS' SONS, INC.
CEDAR GROVE, ESSEX COUNTY, NEW JERSEY

SINCE 1877 MANUFACTURERS OF INDUSTRIAL BRUSHES EXCLUSIVELY

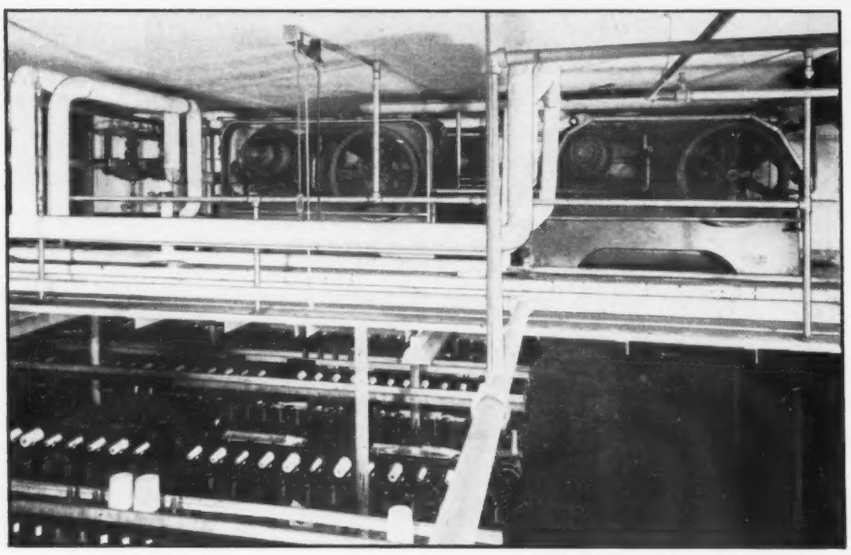
YEAR 'ROUND

Temperature and Humidity Control

(RAYON - NYLON)



Bahnson engineers cracked a hard nut in this case by solving the problems of a basement room, concrete construction, with 12' ceiling height streets on three sides and no place to build a fan room.



Careful engineering and the flexibility of Bahnson equipment permitted a practical mezzanine installation (4' headroom) to produce 45 tons of refrigeration in a central station of 35M CFM capacity.

Bahnson System

AIR CONDITIONING ENGINEERS

THE BAHNSON CO. WINSTON-SALEM, N. C.

886 Drewry St., Atlanta, Ga. 93 Worth St., New York City 703 Embree Crescent, Westfield, N. J.
553 S. Figueroa St., Los Angeles, Cal. W. J. Westaway Co., Ltd., Hamilton, Ontario A-3 Virginian Apts., Greenville, S. C.

excess mordant may be guarded against by the use of suitable assistants along with the soap.

With vat and azoic prints severe and prolonged soaping may be necessary for complete removal of thickenings. As pointed out, extremely severe soaping may decrease the rubbing fastness of azoic types by surface migration of aggregated particles of the dye. Where this is likely to occur and goods are being printed to specification, it may be wise to use a preliminary de-sizing process for the removal of surplus thickening. Soaping at the boil may then be curtailed to what is necessary for the full development and brightening of the shades.

In the production of white effects, either by resist or discharge styles, on fast-color grounds (solubilized vats, or azoics), vigorous aftertreatment is often required to obtain pure whites. This is best effected by shorter treatments in more concentrated soap liquors rather than by prolonged treatments in weaker liquors. Some of the reasons for this have already been given. In addition, it is clear that the concentrated emulsifying and dispersing powers of soap solutions will be more effective in removal of decomposition resist and discharge products. Prolonged treatments in weak and ineffective liquors retards removal of these products and may even tend to fix them by formation of insoluble soaps in some instances. In using such treatments as have been recommended, the extra cost of soap, de-sizing agents, etc., must be balanced against better quality in the products, and saving of time, steam, and wages by avoiding additional processing.

Electrical Drives

(*Continued from page 155*)

ADJUSTABLE VOLTAGE (d. c.) The one-line diagram in Fig. 2 illustrates the equipment and connections for the adjustable-voltage type of drive. As shown in the diagram a motor-generator set is used to convert a.c. power to adjustable-voltage d.c. power. The conversion may also be effected by controlled electronic rectifiers as in the Try-mo-trol. In certain cases, turbine generator sets may be used for obtaining the d.c. adjustable voltage.

Each of the range motors is connected to the adjustable voltage bus through a common controller. Over-all speed control of the range is obtained by adjustment of the armature voltage, which is common to all the range motors. In addition, speed control on the individual motors is obtained over a limited range by control of shunt-field excitation on the individual motors.

(*Continued on page 229*)

Color Dynamics..

Scientific use of *energy in color* builds up workers' morale, reduces fatigue, absenteeism and accidents . . . improves production!

• One of the departments of the Lily Mills Company of Shelby, N. C., after it had been decorated according to the principles of COLOR DYNAMICS.

Lily Mills executive praises new painting method!

THESE DAYS . . . alert manufacturers such as the Lily Mills Company of Shelby, N. C. consider carefully every development—no matter how new or unusual—which will help them build more and better goods.

Color Dynamics is new . . . is unusual—but within a year's time it is winning praise such as this:

"Use of specific colors based on your Color Dynamic principles," writes J. W. Schenck, Secretary of Lily Mills, "is helping us to maintain a higher employee morale, a good safety record and efficient production throughout our entire plant."

Such success of Pittsburgh's new science, COLOR DYNAMICS, in a number of textile plants is not surprising. This new and purposeful use of the *energy in color* is based upon the physical and mental reactions of human beings to color.

Pittsburgh has worked out special methods to utilize this *energy in color* on every paintable surface—machines, floors, walls, ceilings and mobile equipment.

In all cases where these principles have been applied more work per man-hour and more man-hours per worker have been the result! Plant efficiency has been increased . . . Workers' eye fatigue is lessened, absenteeism is reduced, accidents are prevented and the quality and quantity of production are improved.

You can test COLOR DYNAMICS in your plant. Apply its principles to one or two machines—or one department. See the difference it makes in your organization.

Write for a FREE copy of our booklet, *"Color Dynamics"* which fully explains this new science. Address Pittsburgh Plate Glass Company, Paint Division, Dept. TW-3, Pittsburgh 22, Pennsylvania.

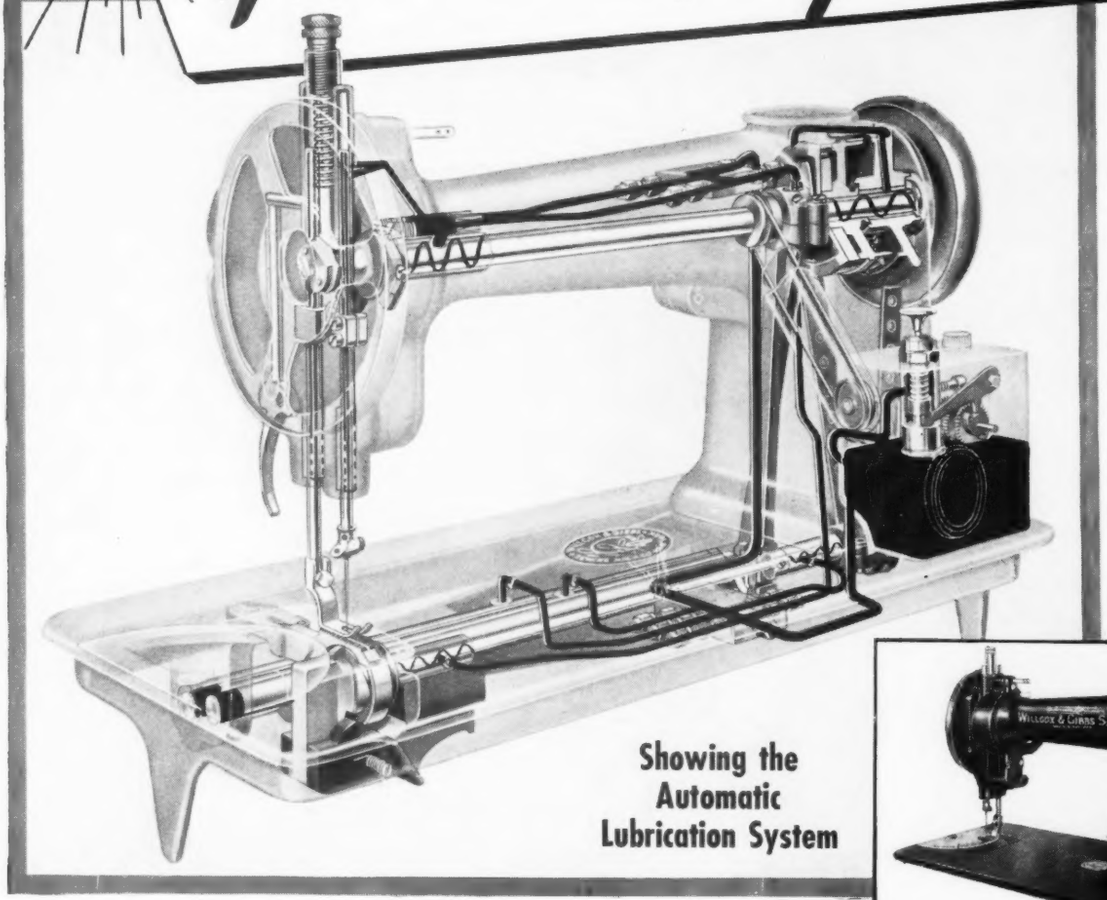
PPG

PITTSBURGH PAINTS

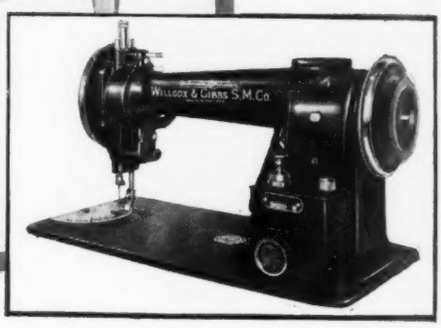
PITTSBURGH PLATE GLASS COMPANY, PITTSBURGH, PA.

PITTSBURGH STANDS FOR QUALITY PAINT AND GLASS

Precision Pays Off



Showing the Automatic Lubrication System



THE "W&G" *Precision-built* Lockstitch produces quality work at low operating cost. Its mechanical superiority for all plain sewing operations is recognized in every branch of the industry.

Truly an "Instrument of Precision," the "W&G" Lockstitch incorporates such outstanding features as:

AUTOMATIC LUBRICATION—The Meter Unit Type Lubricating System apportions and delivers the correct amount of *filtered* oil to each bearing according to size, speed and load. Thus all bearing surfaces are covered entirely and continuously with a film of oil. This film keeps metallic surfaces apart, reducing wear and preventing seizure.

BALANCED DESIGN—No need to fasten the "W&G" Lockstitch to table or bench; it is perfectly balanced, thus vibration is completely eliminated even when running at top speed.

FLOATING BOBBIN CASE — Lubrication of the Bobbin Case is unnecessary, which makes for cleaner stitching. Lightness in construction and easy thread tension contribute to longer life.

BEARINGS—All Shafts and Bars operate in replaceable bearings which automatically eliminate the necessity of using oversize parts.

UTILITY—Apart from its value as a plain stitcher, the full scope of the Lockstitch can be enlarged upon by utilizing the more than 2000 different combinations of special parts and attachments for binding, braiding, cording, gathering, hemming, piping and tucking.

Send for Illustrated Descriptive Literature

WILLCOX & GIBBS SEWING MACHINE CO.

214 West 39th Street, New York 18, N. Y.

(*Continued from page 226*)

Close co-ordination of the various elements of the range is obtained by motor shunt field control, as will be described later in this article. Inasmuch as the range motors are fairly well co-ordinated at any range speed by virtue of the armature voltage control, the motor-field control normally functions to regulate fabric tension and to compensate for changes in motor loading and fabric stretch or shrinkage.

Wide speed ranges are available with the adjustable-voltage drive, about 15/1 being the limit without special control to compensate for voltage drop in the motor armatures. Wider ranges are available with this control and with proper motor ventilation. Speed regulation because of load changes is good at any speed and is approximately constant in r.p.m. from full load to no load. These drives inherently have a constant torque characteristic over the speed range, and the motors are somewhat less expensive than adjustable-speed constant-voltage motors having the same horsepower ratings at the same maximum speeds.

Comparatively speaking, the adjustable-voltage control is simple and inexpensive. Through the use of motor-operated rheostats exceptionally smooth acceleration and deceleration are possible when required. Regenerative braking is an inherent characteristic when a motor-generator set is used.

Motors may be removed from range operation; but may not be operated independently unless separate additional control and another d.c. power supply is provided.

Inasmuch as the adjustable-voltage conversion apparatus is usually purchased for a specific range drive, good judgment should be used in choosing equipment with sufficient capacity to take care of possible future additions to the range.

BRUSH SHIFTING TYPE BTA (a. c.) Fig. 3 is a one-line diagram showing the equipment and connections for the BTA motor-range drive. In this type of drive, 3-phase a.c. power is used directly without any conversion equipment. Each of the range motors is connected to the a.c. power line through its individual controller. The system is quite flexible, and if desirable, individual motors may on occasion be omitted from range operation and used independently without undue complication.

Speed control on the motors is obtained by shifting of the brushes on the commutators, which can be accomplished in several ways. Operating speed ranges of 3/1 or 4/1 are available, with the 3/1 range being somewhat less expensive than the 4/1 range. As in the case of the constant-voltage direct-cur-

ASSEMBLING REQUIRES NO SPECIAL FITTING

• Assembling is greatly simplified by Lunkenheimer precision production . . . parts are so accurately made that special fitting isn't necessary.

LUNKENHEIMER

Precision Workmanship

SUPER ACCURACY IN EVERY PART

...LONGER SERVICE LIFE

Fig. 2125 Bronze Double Disc Gate

Fig. 1430 Iron Body Gate

• You can't fool the maintenance men on valve quality. They know that when a valve has a much longer than average service life, that valve has superior accuracy and precision built into it from handwheel to pipe threads.

Such valves are the only kind that Lunkenheimer has ever produced. For over three quarters of a century, the Lunkenheimer quality ideal has won ever widening acceptance until today it is a recognized tradition in American industry.

Lunkenheimer quality is the balanced combination of many factors. Among them are finest raw materials approved by constant testing and research . . . sound, advanced design . . . highly skilled workmanship . . . absolute accuracy . . . perfect alignment of all parts.

As an inevitable result — wherever you find Lunkenheimer Valves you find maintenance cost records consistently lower.

Your LUNKENHEIMER Distributor

— is an important link in the nationwide Lunkenheimer chain of better, more efficient, more reliable valve service. He is fully equipped to assist in the solution of valve maintenance and operating problems. In addition, he can make prompt arrangements to have a Lunkenheimer Engineer call at the plant whenever technical valve engineering knowledge is required.

THE LUNKENHEIMER CO., Cincinnati 14, Ohio, U.S.A.

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Benjamin Booth Company

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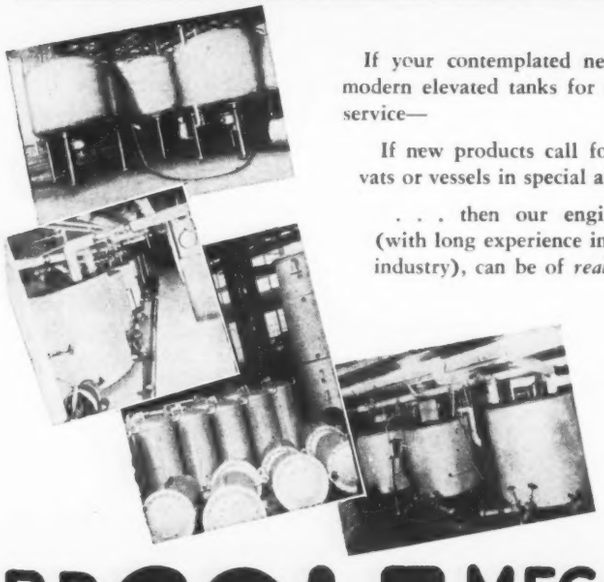
Is your mill planning

EXPANSION *or* MODERNIZATION?



If your contemplated new buildings require modern elevated tanks for sprinkler or general service—

If new products call for new kiers, kettles, vats or vessels in special alloy steels—

. . . then our engineering department, (with long experience in servicing the textile industry), can be of *real service* to you.

Submit us your problems, or write for a copy of "Tank Talk."

R.D. COLE MFG. CO. ESTABLISHED 1854

Newnan Ga.

rent motor drive, sub-basic speed may be obtained by the use of resistors, this time in the motor secondary circuit. Speeds down to 50% of basic speed are possible on an intermittent basis; speed regulation and efficiency are quite poor under these conditions.

Type BTA motor drives are suitable for constant-torque loads over the speed range. They are relatively expensive motors, being equipped with slip-rings, brushes, and two rotor windings. The individual controllers are relatively simple and inexpensive.

Although acceleration from basic-speed upwards may be accurately controlled, slow and smooth acceleration from standstill up to basic speed is difficult to obtain. Dynamic braking or regenerative braking is not feasible; and, therefore, the drive must coast to a stop unless some form of auxiliary braking is used. Unequal coasting times on individual machines may be compensated for with special coasting relays in the controller.

TURBINE-ELECTRIC (a. c.) The one-line diagram in Fig. 4 illustrates the equipment and connections for the turbine-electric range drive. In this system, a mechanical-drive steam turbine powers the lead unit in the range and also drives an a.c. generator. Squirrel-cage induction motors are used to drive the other elements of the range, and are supplied with power from the a.c. generator through a common or individual controller.

Over-all speed control of the range is obtained from the turbine governor. As the turbine speed changes, the frequency of the a.c. power generated changes in proportion. Thus, the induction range motors, with speed responsive to frequency, follow all speed changes of the turbine and lead unit.

Wide speed ranges, on the order of 15/1 or more, are possible, and smooth acceleration and deceleration are easily obtainable with proper control on the turbine. Rapid stopping of this kind of drive may prove difficult without auxiliary braking apparatus, since dynamic braking on the turbine or regenerative braking through the turbine is not possible.

The adjustable frequency drive inherently has a constant torque characteristic over its speed range. The squirrel-cage induction motors are quite inexpensive, as is the a.c. control. However, the turbine, the turbine governor, and the a.c. generator are relatively expensive from the standpoint of first cost. The importance of first cost, however, becomes less due to the fact that the turbine exhaust steam may be recovered for process operations. The need for process steam generally decides the question of

(*Continued on page 234*)

RAYON REPORTS

Published Monthly by American Viscose Corporation, New York, N. Y. MARCH, 1946

RAYON OUTPUT TO DOUBLE IN NEXT 10 YEARS IS FORECAST

Rayon production totaling more than 800,000,000 pounds in 1945 more than doubled the prewar output of 1939, according to William C. Appleton, president of American Viscose Corporation. This expansion cannot be classed entirely as a war phenomenon, but rather a continuation of the uninterrupted growth which the industry has experienced since it was founded, he declared... noting particularly that the growth has been accompanied by a steady improvement in quality and lowering of selling price.

The AVC President further declared that despite the wartime increase in output, which was chiefly in new and stronger types of rayon, such as the high-strength rayon yarns for tire cords, the demand for rayon is still considerably greater than the supply.

From present indications, he said, it is probable that production will again double during the next ten years provided material and labor costs do not get out of bounds.

NEW MEXICAN DISTRIBUTOR IS ORGANIZED

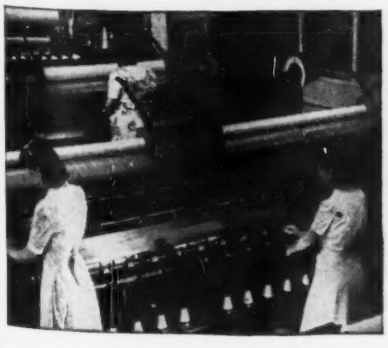
American Viscose Corporation has organized Rayon Mexicana, S. A., to handle the distribution of its rayon in Mexico. Since American Viscose Corporation commenced to export rayon yarn and staple fiber under the Good Neighbor Policy in 1942, its Mexican business has been handled on an agency basis. The purpose of the new company is to render better service to its Mexican customers. At the present time it is not expected that exports to Mexico can be increased, in view of the continued acute shortage of all rayons.

John W. Geary, Jr., manager of American Viscose Corporation's export department, is president of the new company. Vice-president and general manager is Robert L. Blum, who has been the company's agent for rayon filament yarn in Mexico since exports were started to that country. David L. Enequest, a member of American Viscose Corporation's export department for the past four years, is vice-president and assistant general manager, and will leave on March 15 to reside in Mexico City.

AVC ESTABLISHES CLEVELAND OFFICE

The American Viscose Corporation has opened a sales office at Cleveland, Ohio, to service the textile and tire manufacturing trades in the midwestern area, it is announced today. William J. Bieberle, previously associated with the company's Philadelphia sales office, is manager, and Harry A. Mason, formerly in the viscose yarn sales division of the New York office, is assistant manager.

The address of the new office is 1318 Guardian Building, 629 Euclid Avenue, Cleveland 14, Ohio.

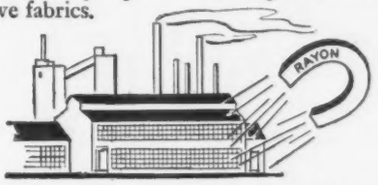


Complete, modern facilities for studying methods of improving rayon textile production, as well as for original rayon research, are provided by a unique plant under direction of the Textile Research Department of AVC, at Marcus Hook, Pa. Full-size machinery for nearly every operation of the textile industry is contained in the plant. Shown are spinning machines in the woolen division, where close attention to a special research project is requiring several operators.

RAYON—20 YEARS AGO

The American coined name "rayon" finds acceptance in the London Times, which admits that this probably is "the magic word" to describe so useful and distinguished-appearing a material.

Rayon "blends" are really catching on with this spring's new offerings of attractive fabrics.



A prominent paper pulp corporation is currently devoting the entire output of a modern mill to cellulose for rayon.

MAKE USE OF 4-PLY SERVICE

1 PRODUCT RESEARCH
Helps you get the right yarn or fiber.

2 FABRIC DEVELOPMENT
Helps you design new fabrics.

3 TEXTILE RESEARCH
Helps solve production and finishing problems.

4 "CROWN*" TESTED
Helps provide scientific selling facts.

AMERICAN VISCOSE CORPORATION

America's largest producer of rayon

Offices: 350 Fifth Avenue, New York 1, N.Y.; Charlotte, N. C.; Cleveland, Ohio; Philadelphia, Pa.; Providence, R. I.; Washington, D. C.; Wilmington, Del.

Plants: Marcus Hook, Pa.; Roanoke, Va.; Lewistown, Pa.; Nitro, W. Va.; Parkersburg, W. Va.; Meadville, Pa.; Front Royal, Va.

*Reg. U. S. Pat. Off.

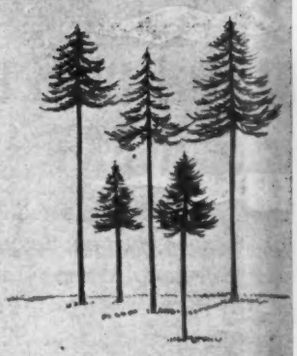
CROWN TESTED RAYON FABRIC

two decades of pioneering

A Continuous Record of Product Development

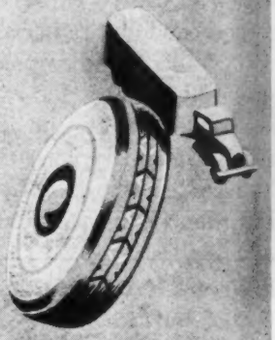
Since 1926, when it pioneered bleached sulphite paper pulp from Western Hemlock, Rayonier has been making scientific history in the interest of its customers.

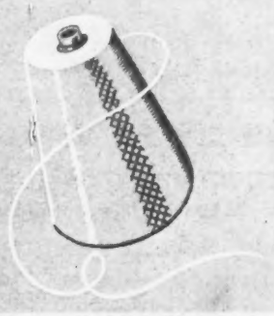
Through research, the company perfected a rayon pulp from a brand new source of supply — Southern Pine. This opened up a new agricultural and industrial economy in the South.



In 1930, the company introduced the first pulp from Western Hemlock for the viscose rayon industry. A dissolving pulp for use in making cellophane followed.

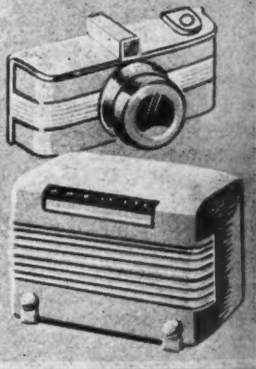
Another Rayonier pulp enabled the manufacture of high tenacity yarns for tire cord, contributing to one of the most outstanding advances made by the rayon industry.





Upsetting precedent, the next product was a pulp for the acetate rayon industry. A cellulose for nitrating purposes also was developed.

Special pulps have been developed also for making photographic papers, certain plastics and other cellulose-base products.



Pioneering requires initiative, vision, confidence and courage — a continuing search for new products and new uses. This is an underlying feature of Rayonier's customer program.

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Sales and Executive Offices: 122 East 42nd Street, New York 17, N.Y.
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Profit Factor in Textiles
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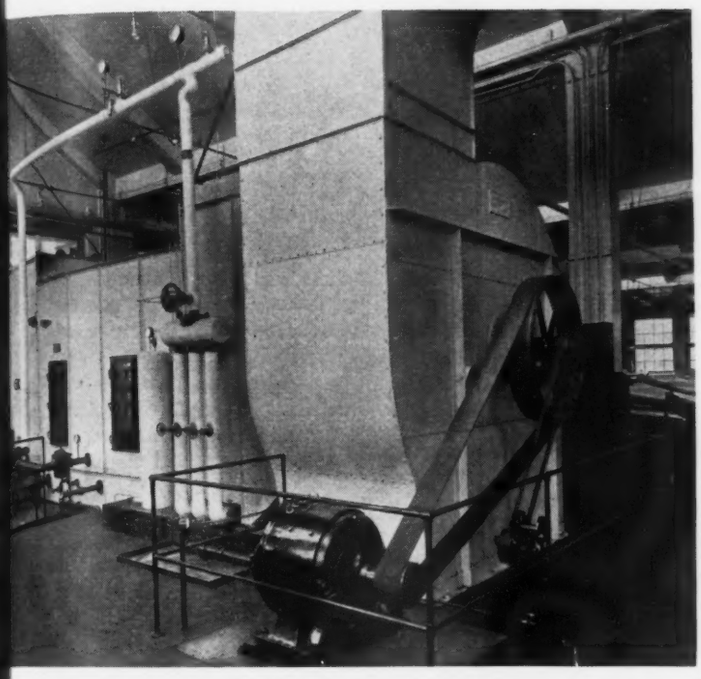

THIS BUFFALO FAN AND AIR WASHER WERE INSTALLED PRIOR TO 1910

FACTS! Containing full information on the several types of "Buffalo" Air Washers and de-humidifiers, this Bulletin No. 3142-A is yours for the writing.

"Buffalo" Non-Clogging NOZZLE

These efficient nozzles now used in "Buffalo" Air Washers provide a dense water curtain with minimum water . . . the result of hundreds of experiments.

"Buffalo"

TYPE "H" AIR WASHERS

Provide
ACCURATE HUMIDITY CONTROL
at
LOW POWER COST

Worker health and efficiency, as well as proper air conditions for materials being worked . . . these are some of the "profit ways" in which "Buffalo" Type "H" Air Washers can help in your mill. "Profit" . . . because absenteeism from sickness is reduced, production speeded up, product quality upheld.

And operating costs for these "Buffalo" Air Washers are remarkably low! Their two banks of sprays provide *accurate* humidity control for large volumes of air with a minimum of spray water (and minimum pump power). The "Buffalo" representative in your nearest principal city will gladly give you full facts on clean, healthy air the economical "Buffalo" way.

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"Buffalo"

AIR WASHERS

DRUMMOND SOAP
is
NOW AVAILABLE
in Flakes

THE SAME FEATURES PLUS { EASY TO USE / SUDS BETTER

you'll be hearing as much about the new DRUMMOND FLAKES now as about DRUMMOND SOAP in the past!

Drummond Flakes are ideal for the textile industry because they are so easy to use! And you couldn't get a flake that suds better! All this, and at the same time having the qualities of Drummond Soap: high body with low alkali content . . . leaves fabric perfectly clean with softest feel, brighter colors and whiter whites.

Try Drummond Flakes and note the difference in your fabrics. Drummond Soap is available in a big way, too. It's a matter of whether you prefer Flakes or Solid. You can't go wrong if they're DRUMMOND.

Want to try DRUMMOND Flakes and Soap? Just write us today for free working samples and test them on your own goods.

Standard Soap Co. of Camden

205 South 2nd St.
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G. TANGUAY
281 Harris Ave., Woonsocket, R. I.

Order now
your Postwar

YARN THROWING MACHINES

Only the most modern yarn Throwing Equipment will be able to compete in the postwar textile era. Many have already ordered our postwar Yarn Throwing Machines. Act now. Our engineering department is at your service.

Consider These Products

- U. S. ACME TWISTERS for spool or headless package.
- U. S. JUMBO FACE DRIVE TWISTERS for large Headless Package work.
- U. S. ACME DOUBLER-TWISTERS —large Package.
- U. S. REDRAWS and SPOOLERS.

U. S. TEXTILE MACHINE CO.

SCRANTON 8, PENNSYLVANIA, U. S. A.

Fallspun
QUALITY
YARNS
FINE WOOLEN
& SPECIALTIES
ESTABLISHED 1904

Falls Yarn Mills
WOONSOCKET RHODE ISLAND

(Continued from page 230)

whether the turbine-electric drive should be used.

As in the case of the adjustable-voltage d.c. drive, the rating of the turbine and a.c. generator should be carefully considered from the standpoint of capacity to accommodate possible future additions to the range.

The fact that the various elements of ranges are individually driven makes necessary some provision for co-ordinating the range motors to maintain correct relative speeds and fabric tension between elements. There are several methods by which electrical range drives may be co-ordinated, five of which will be described in this article. They are (1) dancer rolls (compensating gates); (2) photoelectric loops; (3) speed regulators; (4) tension regulators; and (5) load (current) regulators.

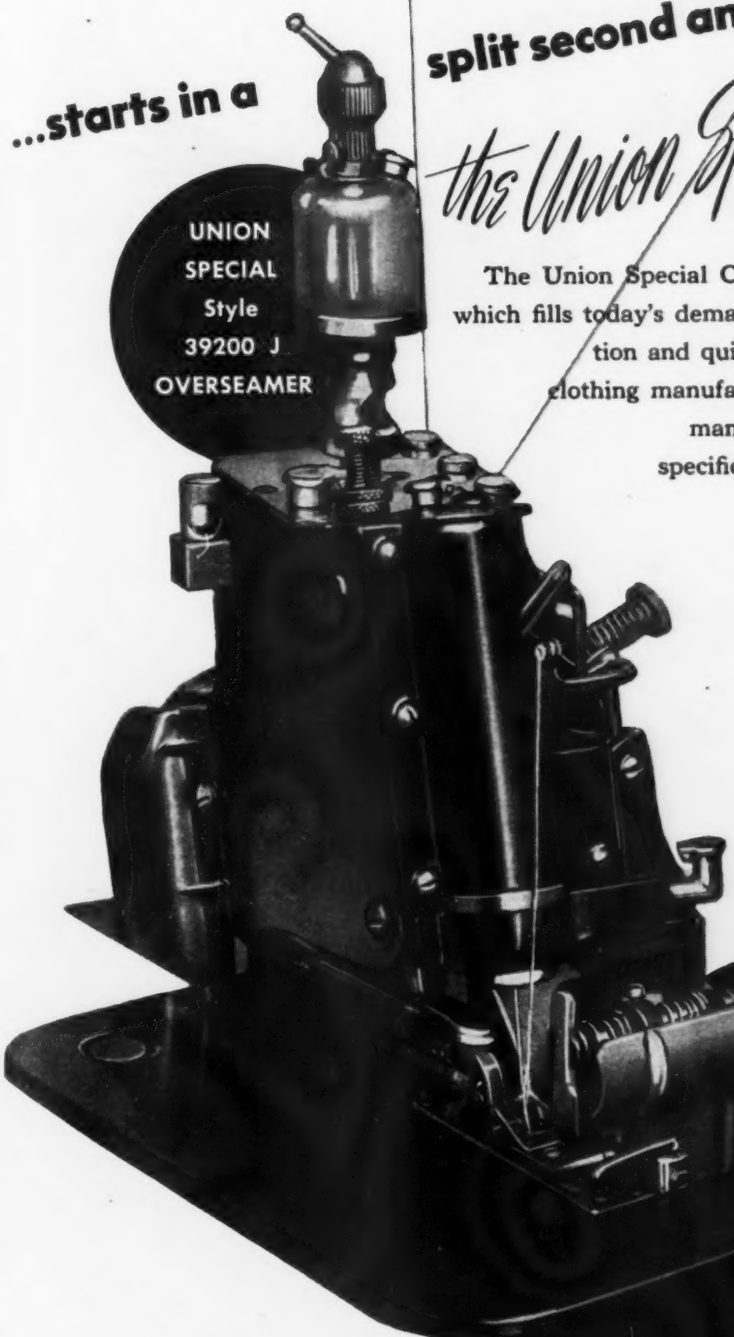
DANCER ROLLS. In the textile-finishing division of the industry, dancer rolls are the oldest and most widely used method of co-ordinating range drives. Each roll is supported in a loop of fabric between successive elements of the range and is mechanically connected by chain and sprocket to a speed changing device on one of the motors; all motors thus arranged are known as "follower" motors. One motor, known as the "lead" motor, will not be associated with a dancer roll, and its speed will determine the over-all speed of the range. Obviously, a dancer roll will rise or fall if fabric is removed from the loop faster or slower than it is fed into it. As the roll changes position, it will drive the speed changing device on the motor it controls. Thus, the dancer roll will always assume a position so that cloth is removed from and fed into the loop at the same rate, and the range elements on either side of the loop are said to be co-ordinated.

In view of the space taken up by dancer rolls and time devoted to their maintenance and proper installation, they have been the target of considerable criticism. Although such an attitude is understandable, the fact remains that dancer rolls give the simplest, least expensive, most accurate simultaneous control of speed and tension and automatically compensate for changes in fabric stretch or shrinkage and for changes in relative motor speeds due to any causes. The average speed control is 100% accurate. The tension on the fabric is absolute and unvarying under steady-state conditions and is a function of the weight of the dancer-roll equipment.

This type of co-ordination control is adaptable to any of the types of adjustable-speed drives already described. On the direct-current drives, the dancer rolls control rheostats; on the BTA drives, they shift brushes; and on the

...starts in a split second and stops on a dime!

the Union Special CLASS 39200 OVERSEAMER



The Union Special Class 39200 Overseamer is the machine which fills today's demand for high speed, light running operation and quicker acceleration and deceleration. The clothing manufacturer who insists on top quality workmanship finds Union Special Overseamers specifically suited to his operations, as they do quality work while stepping up production and cutting down costs. These machines feature simplicity of design, improved thread handling and a combined gravity-capillary oiling system.

UNION SPECIAL OVERSEAMERS INCLUDE:

Style 39200 AJ—for seaming, with automatically guided reinforcing tape, knitted outerwear made of cotton or wool, stitch Type 504, seam Types SSa-1 and SSn-1 inverted.

Style 39200 AE—for seaming all types and weights of flat knit, warp knit, and ribbed knit fabrics of cotton, wool, rayon or silk.

Style 39200 AS—for blind stitch welting or hemming on flat knit, rib knit and warp knit light weight undergarments made of cotton.

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turbine-electric drives, the dancer rolls may be used to control some kind of cone-pulley arrangement.

PHOTOELECTRIC LOOPS. This type of control is similar in many respects to the dancer-roll control, but in addition is absolutely stepless and devoid of the mechanical objections of the dancer-roll equipment. A loop in the fabric acts to intercept a portion of a wide beam of light, as indicated in Fig. 5. The voltage output of the photoelectric control, and therefore the motor excitation, is a function of the amount of light reaching the phototubes. Thus, the speed of the motor being controlled from the loop depends on the position of the bottom of the loop, just as the position of the dancer roll in the discussion above determined the speed of the motors. The loop will always assume a depth that gives a balance between the rates of fabric into and out of the loop, and the motors on either side of the loop are properly co-ordinated.

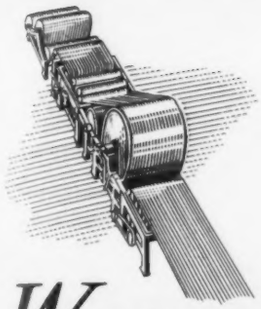
The fabric tension in a system of this type may be zero, or may be made any desirable amount by supporting a properly weighted roll in the loop. Obviously, the fabric should be closely woven in order that the light beam may be sufficiently cut off to give control. If necessary, special arrangements with auxiliary equipment may be made for loosely woven fabrics which will not cut off much light.

Photoelectric co-ordination of range elements is readily achieved on d.c. drives, and although possible on the a.c. drives, it is not so readily adaptable and is not recommended.

SPEED REGULATORS. Straight speed-regulating equipment on the individual motors may be used for co-ordinating elements of range drives. In this system, the speeds of the individual machines are compared with a speed standard. Any difference between the actual machine speeds and the speed standard are amplified and fed back into the individual motor-speed control in a closed loop-regulating circuit. One way of picking up speed signals from the individual machines is through the use of tachometer-generators, whose voltages are proportional to speed. The speed reference in this case could be the voltage from a tachometer-generator driven by the lead unit in the range, or it could be a master, adjustable reference voltage against which the speeds of the lead unit and all the follower units could be matched.

For fast, accurate speed control, the regulating equipment must have quick response and high amplification characteristics in order to operate with very small "error" signals. Electronic regulators and dynamoelectric regulators of

(*Continued on page 239*)



Weavers of Peru...

● The ancient Incas wove perfect tapestry double cloths, brocades, crepes and cloths of other weaves on their simple looms. With colored threads, they wove designs showing plants, animals and men with their sacred wildcat or puma appearing often. Their method of spinning cotton was remarkably similar to that used by the people of India.

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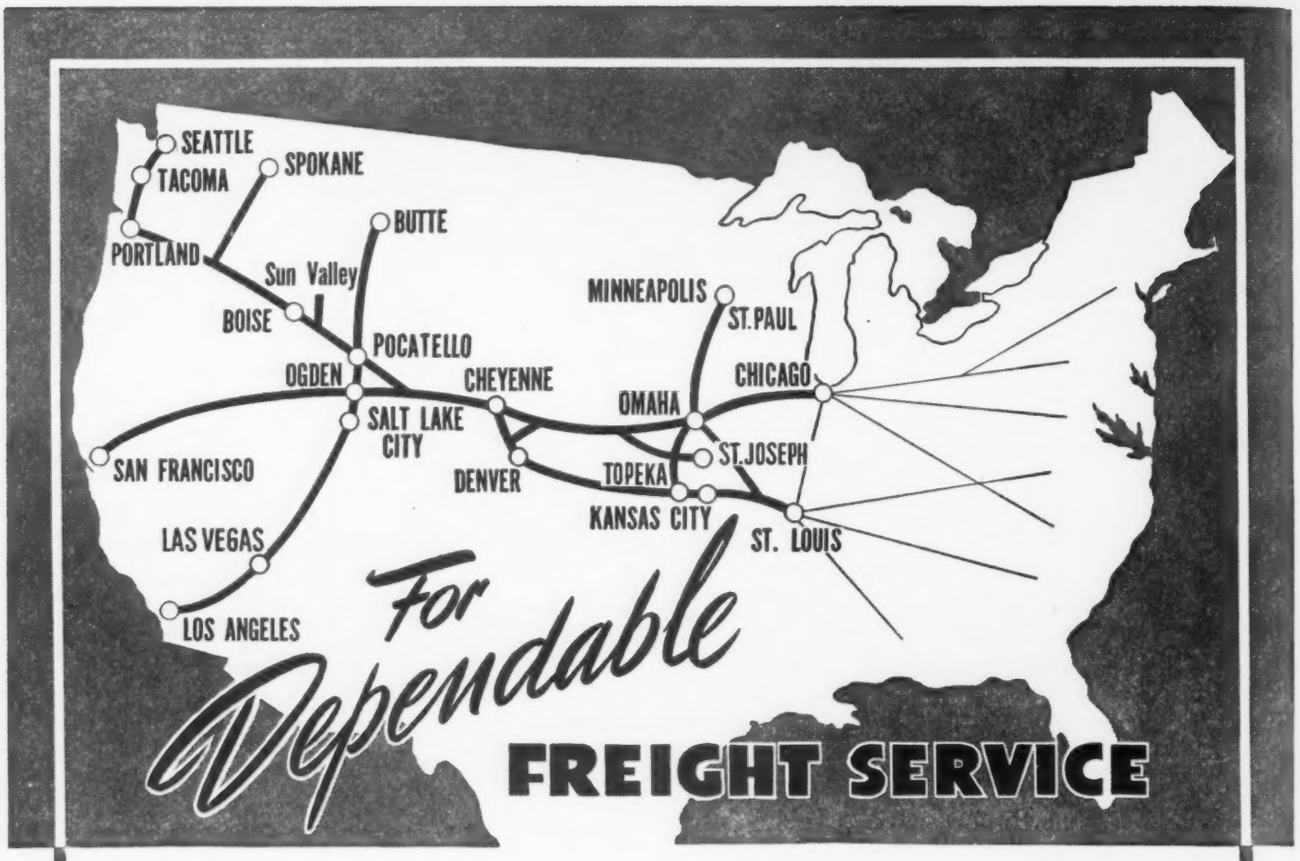

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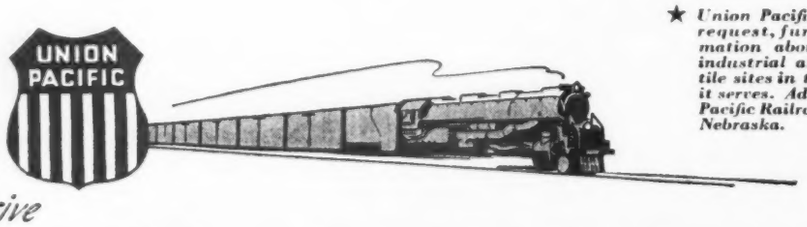


The Progressive

UNION PACIFIC RAILROAD

The Strategic Middle Route

(*Continued from page 236*)

the amplidyne type have these characteristics, and give accurate control.

Speed regulation of this type offers an excellent means of controlling stretch, but, because of the flat speed-load characteristic, is not necessarily a good way of controlling fabric tension. In other words, a small change in speed between range elements may result in a much larger change in tension, depending in part on the stretch characteristics of the particular fabric.

This kind of speed regulation equipment is ideally suited to d.c. drives and is somewhat easier to use on the adjustable-voltage system where only a small amount of speed control is necessary on the motor shunt fields. Speed regulators of this type are not recommended for the a.c. systems included in this article, because of the problems encountered in translating the "error" signals into the mechanical motion necessary for speed correction.

TENSION REGULATORS. In certain finishing processes, fabric tension is rather critical and must be accurately controlled. Special equipment may be used actually to measure and control fabric tension between elements. In this system, the cloth may be passed over a roll and the deflection of the member on which the roll is mounted may be measured by some form of strain gage, the voltage output of which will depend on the amount of fabric tension and gage motion. By means of a rheostat, an adjustable tension reference may be established and the output of the strain gage will be amplified and fed back into the motor speed-control circuit in order to maintain the selected tension.

As in the case of the speed regulators described above, electronic and/or amplidyne control may be used for very close regulation of tension.

Although not recommended for the a.c. drives described, this kind of tension control is well suited to d.c. drives, because it is somewhat easier to use for range co-ordination on the adjustable-voltage type.

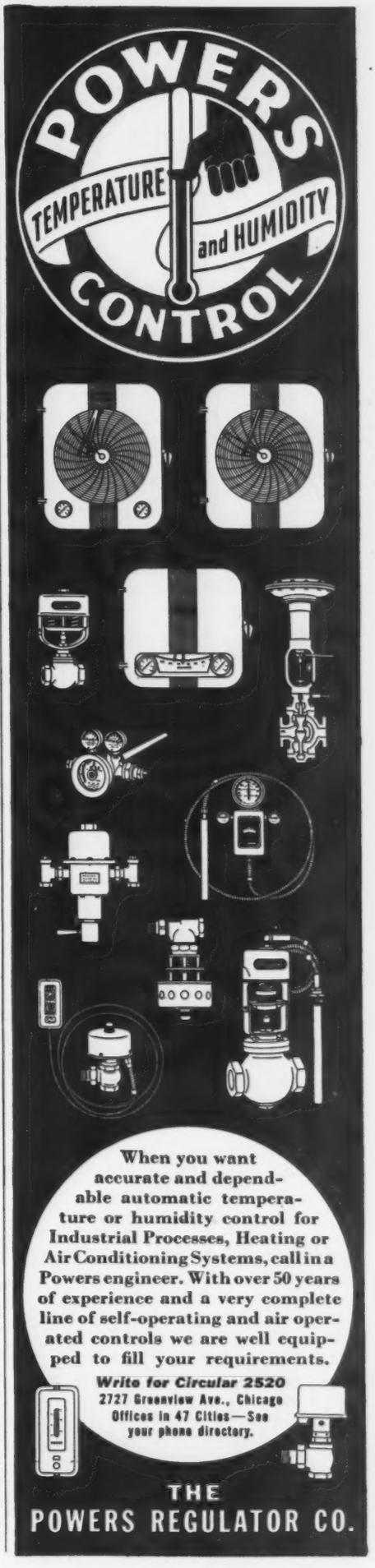
LOAD (CURRENT) REGULATORS. Fabric tension between range elements may sometimes be controlled indirectly by means of motor-current regulators. This system, which is suitable only on the adjustable-voltage d.c. type of drive, uses an amplidyne or electronic closed-loop regulating circuit in maintaining constant motor current. Obviously, if current control is to give accurate tension control, most of the motor-load current must be due to tension. Therefore, the system is at its best only on drives where the friction component of the load is quite low. This kind of tension control is well suited for center-wind reels. (For detailed description, refer to the article "Tension in Slashing Controlled Electronically," August, 1945, TEXTILE WORLD.)

WITHOUT AUTOMATIC REGULATORS. There are types of finishing ranges requiring no extremely accurate control over speed or tension between range elements. In such cases, no automatic regulators are necessary and manual control plus the inherent motor characteristics are relied on entirely.

One example is the continuous peroxide-bleaching range in which the cloth is handled in slack rope form without tension between successive range elements. A large number of these ranges with adjustable-voltage d.c. drives are being installed throughout the country today. Since the cloth is slack between machines, speed regulators are about the only automatic co-ordination control that could be used. However, since there is considerable slack cloth storage between machines, such fine speed control is superfluous, and the co-ordination control is therefore obtained from manual rheostats.

Another example is the so-called soft-motor range, of which a considerable number have recently been installed. Motors for these drives have been purposely designed so that their speeds will change considerably with load. Because of this characteristic, many ranges can operate satisfactorily without automatic regulators due to the fabric acting somewhat as a belt in co-ordinating the drive. If any one motor should attempt to change its speed, there will be a change in fabric tension. Also, the corresponding change in loading on the individual motors will tend to cause changes in the motor speeds, in order to compensate for the initial change in conditions. Thus, once the desired tension has been adjusted between the range elements by means of manually operated motor-field rheostats, the system tends to be more or less self-regulating as far as relative motor speeds are concerned. Obviously, soft motor drives can not be used unless the fabric possesses considerable warp strength.

SELECTING PROPER DRIVE. Since there is such a variety of drives and co-ordination equipment available for finishing ranges, some kind of guide for making proper selections to meet specific requirements should be helpful to finishing mills and machinery builders. Although there will always be special cases and exceptions to broad generalizations, the following general statements regarding the suitability of the various drive systems should be useful in making preliminary selections. It is recommended that final selection be based on proposals submitted by the co-ordinated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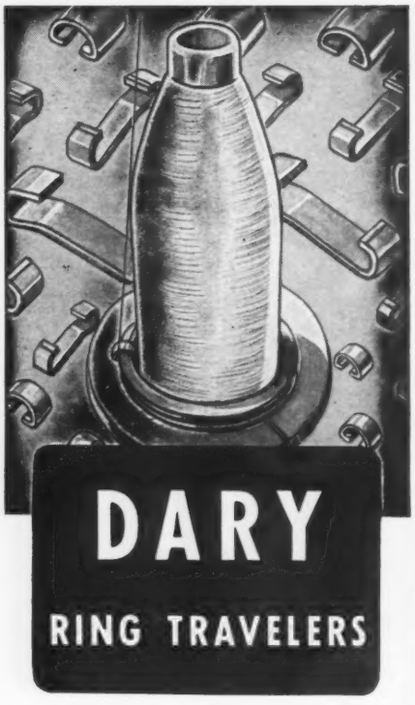

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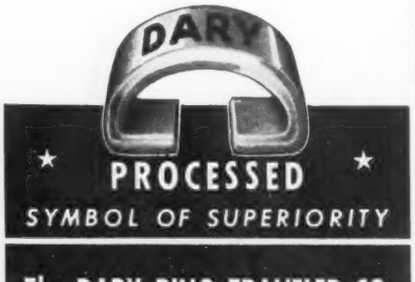

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drive manufacturers, who are able to supply a variety of drives and who are in a position to make impartial recommendations.

1. *Adjustable voltage (d.c.)*—For wide speed ranges and very smooth acceleration and deceleration; also should be considered for moderate speed ranges when the drive is composed of a large number of motors, regardless of type of available power supply.

2. *Constant voltage (d.c.)*—Where d.c. power is already available and for speed ranges up to 4/1.

3. *Brush shifting Type BTA*—For a.c. power and for speed ranges up to 4/1.

4. *Turbine-electric*—Where low pressure process steam is needed.

In addition to the considerations listed above, the types of co-ordination control desired may be a decisive factor in selecting the type of drive. Table I lists the various kinds of co-ordination control for the different types of drives, with indication of suitability of the control for the type of drive.

Hosiery Size Standards

(*Continued from page 127*)

girth measurement or wearing width.

The misfits are computed by classifying 10,000 leg and girth measurements into five tables, finding the plus and minus deviations between the actual and standard given as the basic for each table, adding together the plus and minus deviations exceeding one inch tolerance, and using the sum of the numbers.

The fitting form measurer itself consists of three $\frac{5}{16}$-in. thick, flat, universal wearing size forms, representing three width level ranges, A-small, B-normal, and C-large. The terms small, normal, and large are used since the forms represent the surface area in square inches. (See Figs. 1, 2 and 3).

They are built in $\frac{5}{16}$-in. thick and flat for six reasons: (1) to avoid breaking the lay of stocking when measuring its fitting properties; (2) to place the seam readily on edge of form; (3) to prevent snags and runs when stockings have a hard finish; (4) to localize the deformity and prevent spreading as happens on a sculptural form; (5) to simplify and facilitate the inspection and the making of other tests; and (6) to facilitate the building of stretch, and recoverability measurements in the forms.

The forms have a total-length measuring-scale indicating the wearing length in inches. (Fig. 2-A). The thigh section has notches on both sides to hold the stockings taut for inspection, for counting courses and needles, and measuring the initial plus-and-minus stretch and recoverability.

Stretch and recoverability are measured by three pistons built into the form, at the thigh, knee, and instep. (Fig. 2-B-C-D.) The pistons are actuated by a certified compression spring that is released by a push button on the edge of the form. The spring moves the graduated piston outward into the inside of the stocking. If the piston does not enter the stocking or stops in the tight zone, then the stocking is classified as too tight. When it stretches past the tight zone into the normal zone, the stocking is classified as normal in stretch; and when it passes the normal into the loose zone, it is classified as too loose.

The recoverability is gaged by depressing the piston back into the cylinder, which permits the fabric to recover. If it does not contract promptly to near the edge of form or leaves the fabric permanently deformed, in any zone, it is poor in recoverability. If it contracts promptly back to the edge of the form, from any zone, the recoverability is good.

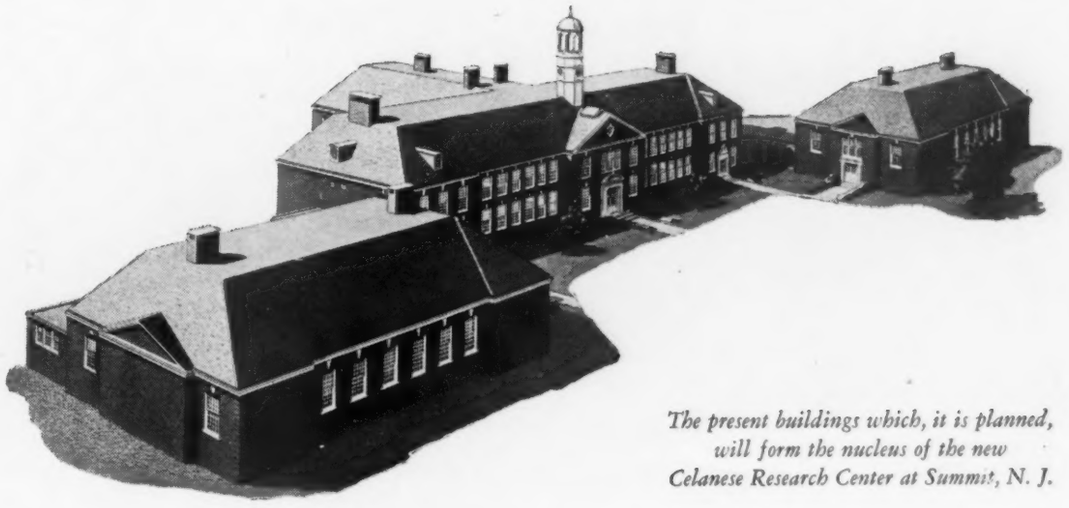
The fitting form measure provides a scientific measurement on the suitability of new yarns for hosiery, points the way to determine the size of pre-boarding forms for nylon to assure good fitting. It takes the guess-work and traditions out of hosiery fitting.

It is designed to guide a snug fit on all parts of leg and foot without a breaking-in period, distress, or rupture; to provide a stretch sufficient to draw the stocking, after laundering, readily over the foot; and to recover without permanent distortion.

The program proposes that the wearing length of stockings be controlled by checking C.P.I. on the machine, with the looped and seamed stockings in the gray and finished states measured as often as is necessary to maintain uniform length and width sizes.

In boarding, spread, and stretch the wet stockings on the form under normal tension, avoid finger marks and excessive stretching; develop a procedure that prevents excessive stretching and looseness on forms.

The program now under development goes far beyond the UHFM stage. It envisions such complementary measures as: (1) use of a semi-automatic device to measure the consumer's leg and foot; (2) encouragement of consumers to check their leg and foot wearing lengths and widths once a year, or as often as necessary; (3) education of the merchant to place his orders for hosiery by those measurements and to sell them accordingly; (4) encouragement of the manufacturer to supply the merchant with leg and foot wearing lengths and widths stamped on stockings and boxes; and (5) provision by the merchant to supply fitting services to those who are irregular in size.



The present buildings which, it is planned, will form the nucleus of the new Celanese Research Center at Summit, N. J.

RESEARCH MAKES A BUSINESS GROW

RECENT ANNOUNCEMENT by Celanese Corporation of America of plans for a centralized research center at Summit, New Jersey, is the latest development in an expanding program of research that has been consistently carried on since the company started. When buildings and facilities are completed, several hundred chemists, physicists and technicians now at work in various Celanese laboratories will transfer their work to Summit.

Celanese Corporation, first and foremost, is a demonstration of practical research. Its products, its growth, its service to the public have stemmed in large part from the genius of those who direct its daily research. Precision is the objective. At Celanese the opportunity is always welcomed to create a specific material—entirely new if required—with definite properties to meet definite needs, rather than adjusting needs to the limitations of an existing material.

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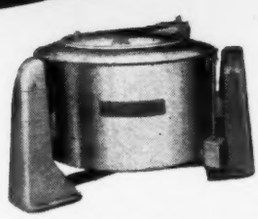
Faster, more economical extraction with Tolhurst Centrifugals has been proved again and again on all types of materials. Now, new improvements have been incorporated to speed up the entire extraction process. New timer control makes operation practically automatic. Basket construction is stainless steel on all parts that come in contact with the work. Smaller cone design gives maximum capacity. Base construction provides ample foot room — makes loading and unloading easier. The larger, more positive brake stops the basket in fraction of time formerly required . . . accomplished without undue heating of brake lining.

Tolhurst *SUPREX* 48" extractor shown above is especially suitable for use with cotton raw stock. *SUPREX* higher rotation speeds assure quicker, more thorough extraction. Equipped with *new, improved* timer control.

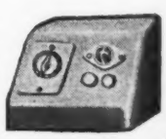
Complete information on Tolhurst extractors is available without charge. Write for details.



"CENTER-SLUNG" EXTRACTOR

The "CENTER-SLUNG" is ideally suited for fast, economical extraction of underwear tubing, hosiery and many other fabrics. Equipped with new, improved timer control and other Tolhurst features for increasing production. "CENTER-SLUNG" extractors are available in 40", 48", 60", 72", and 96" basket sizes.

NEW IMPROVED AUTOMATIC TIMER CONTROL



Operation of Tolhurst extractors is automatic from the time "start" button is pushed to the moment the finished load is braked to a stop. Timer is mounted in a convenient position and requires only one simple setting of predetermined time cycle. Brake solenoid energized only for the instant required to trip brake.

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The REINER Sectional Beam Warpers, for spools from 18" to 84" long, with flange diameters from 18" to 30". Also the Reiner Multiple Unit, for milanese or narrow fabric (ribbon) warps.

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★

New Testing Machines

(*Continued from page 121*)

We take one liter of water heated to 140° F. and add to it 25 c.c. of a solution containing 5% available chlorine. Into this we immerse the fabric which is to be tested and a control sample which we know to be non-chlorine retentive. We leave the fabrics immersed for 10 min., maintaining the temperature at 140° F. After 10 min. we remove the samples and rinse them well in warm water. We continue to rinse in fresh water until the water, as well as the control sample, shows no signs of chlorine when tested with a starch-iodide indicator. This test shows that either all the chlorine has been rinsed out of the fabrics or that the chlorine remains insoluble in the fabric under test.

We dry the rinsed test sample by squeezing it in a towel or by whizzing it in order to remove the excess water and then ironing it until it is dry. We then prepare strips in order to make strength tests by the raveled-strip method. We place a strip into the slot on top of the testing instrument, and place the metal block on the sample so that the sample is pressed down between two metal platens previously heated to 400° F. This temperature is automatically maintained, and the sample is allowed to remain between the platens for 30 sec.

Chlorine damage is shown immediately by the degree of scorch present on the fabric after the 30-sec. heating period. This scorch ranges in color from a faint yellow to a deep brown.

The scorched strips are then broken on the strength tester, and since we know the original strength of the fabric we can determine the exact percentage of loss of strength.

Fabric Wear Tester

By W. H. MASTERSON
Engineer, Better Fabrics Testing Bureau

The features considered by us to be fundamental in a fabric-wear tester are:

1. The test fabric is exposed to wear while curved at a 90° angle over a rotating spindle because clothing is subjected to such wear at cuffs and garment edges.

2. The test fabric is held under tension in a curved position to simulate the edge of a garment.

3. The tester provides for light pressure of the wear sample against the abradant cloth, thereby producing true wear instead of cutting away the fibers composing the test sample.

4. The time required for the wear test on this machine is relatively short; therefore, it is possible to run two or more samples for averaging test results and for assuring accuracy.

5. The wear tester produces check results on fabrics for which it is suited.

A standard for evaluating wear-test results should be formulated to require at least three ratings of test samples: (1) when noticeable wear is detected, (2) when the surface at worn area changes from original appearance, and (3) when yarn ruptures produce holes resulting from fiber wear.

Color-Matching Lamps

By HAROLD ELLSWORTH
Technical Advisor, Analyte Instruments, Inc.

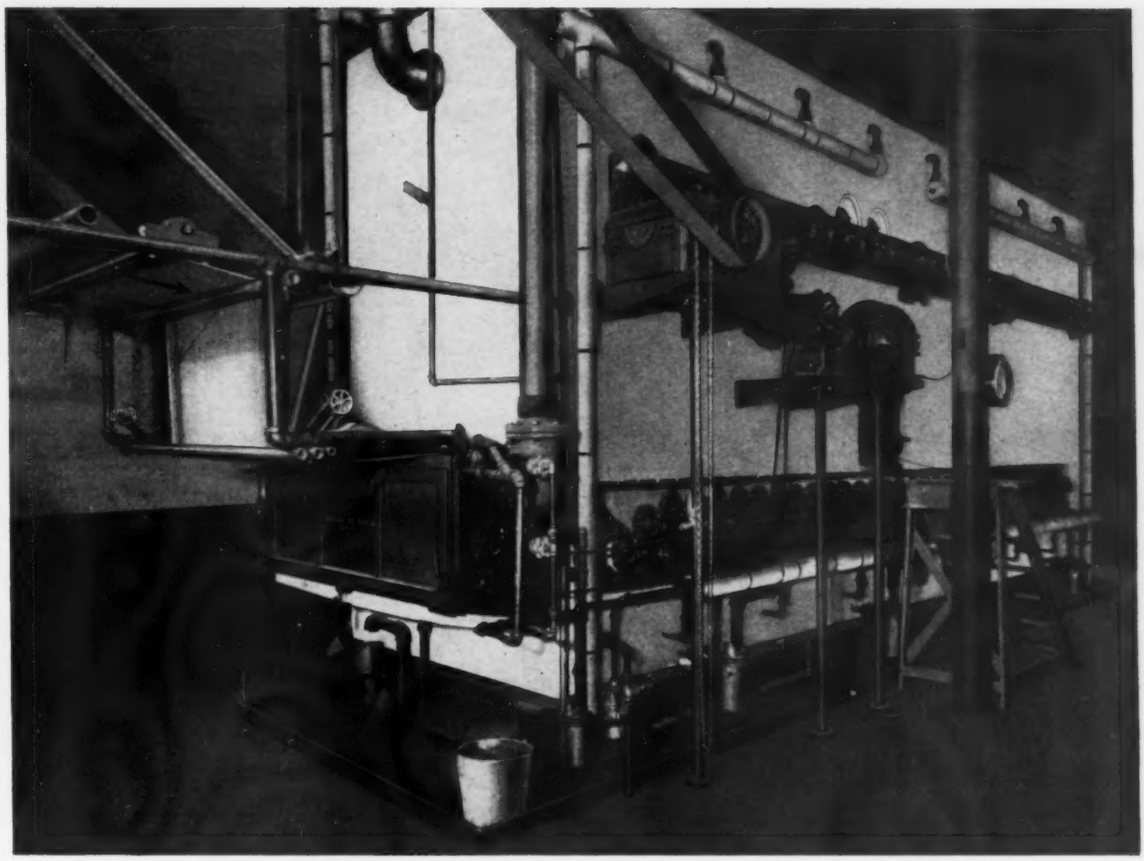
THERE ARE MANY ASPECTS to be considered in evaluating a color-matching lamp. Among these, constancy of spectral balance and reproducability are prime considerations. The two principal types of lamps are: (1) the incandescent lamp, and (2) the gas-discharge lamp.

Report No. 114 of the U. S. Bureau of Standards says: "Glass from different formulae, or different melts from the same formula, vary considerably. . . . The principal objection to daylight glass is that it cannot be accurately reproduced from specifications. This outstanding difficulty, together with its spectral irregularities in the yellow, green, and red, would seem sufficient to prevent the general adoption of any of the known daylight glasses as working standard filters for the production of white light."

In the gas-discharge lamp giving a band spectrum and using a non-selective clear-glass envelope, we have a favorable set of factors. A more recent development is a band-spectrum lamp utilizing the rare gases and emitting light of very satisfactory quality without a filter. In this type of lamp the voltage variable is for practical purposes, eliminated, since any voltage sufficient to maintain a steady discharge will provide the same quality of light.

Fig. 2. The Analyte color-matching lamp, emitting a continuous spectrum consisting of overlapping bands, is said to be the equivalent of north-sky light.

AGING MACHINE



The New England Butt Company Ager is designed primarily to avoid damage to fabrics due to condensation and tension. This design includes as a special feature a pre-heating chamber or ante-chamber that brings the cloth to temperature before entering the ager proper.

Rolls are operated in specially designed ball bearing housings, so designed that a minimum of maintenance is required.

Machines may be operated on either the pond or the dry system, and a minimum amount of steam is required.

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New Hampshire people take naturally to the skilled crafts. Because they live well they produce well. They help manufacturers to build personnel that sets records for low absenteeism, low employee turnover . . . open highways year round.

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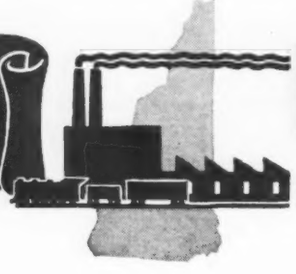
Locate your New Textile Plant in New Hampshire



NEW HAMPSHIRE

State Planning and Development Commission

CONCORD, New Hampshire

It's What Hooker Sulfides Haven't Got that Make Them Important to You

COMPARATIVE freedom from heavy metal salts, the negligible amount of iron,—a maximum limit of 5 ppm in Hooker Sodium Sulfhydrate, and a maximum limit of 8 ppm in Hooker Sodium Sulfide—are reasons why these Hooker Chemicals are so popular among dye chemists.

This high purity, consistently maintained in every shipment, makes them especially desirable for use as reducing agents. These sulfides are employed with excellent results for selective reduction of one of several nitro groups in the same molecule. To eliminate the possible harmful effects of iron, Hooker Sulfides are extensively used in the preparation of aminophenol, many of the anthraquinone dyes, including acid, and nitro compounds such as acid Alizarin Blue SE, Developed Dyes, Rapidogen Dyes and Intermediates.

Another way that Hooker Sulfides are used is for the introduction of sulfur in dye manufacture. They also serve as solvents in the removal of excess sulfur from dyes produced by a sulfur fusion.

Because of their high purity, the need for settling, decanting and filtering is minimized and in many cases eliminated altogether, saving time and inconvenience.

Let Hooker Sulfides improve your products, save valuable time and lower your costs.

SODIUM SULFIDE, Na_2S, a light yellow colored solid in flake form, soluble in water, slightly soluble in alcohol, insoluble in ether.

Analysis

Sodium Sulfide	60 to 62%
Sodium Chloride	1.5% Max.
Sodium Salts	2.0% Max.
Iron	8 ppm Max
All Other Metal Salts	1 ppm Max.
Water of crystallization	36.5 to 34.5%
Shipping Containers	Drums 90 and 350 lbs. net

SODIUM SULFHYDRATE, NaSH, a light yellow colored solid in flake form. Soluble in water and alcohol, insoluble in ether.

Analysis

Sodium Sulfhydrate	70 to 72%
Sodium Hydroxide	0%
Sodium Sulfide	1 to 2%
Sodium Chloride	1% Max.
Other Sodium Salts	1% Max.
Iron	5 ppm Max
All Other Metals	1 ppm Max
Water of Crystallization	28 to 26%
Shipping Containers	Drums 90 and 350 lbs. net.

Hooker's Technical Staff is ready to work with you on the application of Hooker Chemicals to your processes. Technical Data Sheets and samples of Hooker Sulfides will be sent you when requested on your letterhead.

HOOKER CHEMICALS

8386

HOOKER ELECTROCHEMICAL COMPANY

4 Forty-seventh St. Niagara Falls, New York

New York, N. Y. Tacoma, Wash. Wilmington, Calif.

Chlorine **Muriatic Acid** **Ferric Chloride**
Caustic Soda **Paradichlorbenzene**

CHICAGO WATCHCLOCKS

have been leaders in the

TEXTILE INDUSTRY

for more than 60 years

— because they have given dependable service under all conditions—year after year at an astonishingly small cost — and have kept watchmen

CONSTANTLY ON THE JOB

Sturdy 8 day movement; frictionless key action, rustproof, non-corrosive construction. Approved by Underwriters' Laboratories, Inc. and by the Associated Factory Mutuals.

Four Models—One TO FIT EVERY NEED For Complete Mill Protection

Designed and Built by the LEADING MANUFACTURERS OF WATCHCLOCK SYSTEMS FOR MORE THAN SIXTY YEARS

CHICAGO

WATCHCLOCK CORPORATION

1526 SO. WABASH AVE., • CHCAGO 5, ILL.
111 JOHN STREET • NEW YORK CITY
1417 W. 11th St. • LOS ANGELES, CALIF.

SHOW IN PRINT— (*Continued from page 116*)

which prevent accumulation of lint and resulting gouts or bunches in yarn. The blower unit is combined with the company's Monotractor.

AMERICAN SAFETY TABLE CO., INC., Reading, Pa. ***Sewing-machine auxiliaries.***

Auxiliary attachments for industrial sewing machines are featured by this company. Individual and group motor drives; individual stands, safety tables, and light fixtures; and an automatic collar-turning and pressing machine are featured attachments.

ATLANTA PAPER CO., Atlanta, Ga. ***Shipping containers.***

In addition to several standard styles of shipping containers and folding cartons, this company is offering its special "Belsinger" patented textile shipping containers.

BEMIS BRO. BAG CO., Brooklyn, N. Y. ***Cotton tubing.***

"Tite Fit" tubing for use as covering for rolls of goods is made by Bemis. It is pointed out that no waste occurs when using this type of covering.

B. H. BUNN CO., Chicago, Ill. ***Package-tying machine.***

The Bunn package-tying machine, which mechanically ties packages of various sizes, is offered the industry. The machine will tie a cross-tie with a single wrap in two directions or a double wrap in one direction.

CONTAINER CORP. OF AMERICA, Chicago, Ill. ***Shipping cartons.***

This company is offering a line of folding cartons and corrugated and fiber shipping cases.

DIAGRAPH-BRADLEY STENCIL MACHINE CORP., St. Louis, Mo. ***Shipping-room supplies.***

Shipping-room supplies, with emphasis upon stencil machines, fountain brushes, and "Stikfast" label pasters, are offered.

RAYON DIVISION, E. I. DU PONT DE NEMOURS & CO., Wilmington, Delaware.

This company is improving and enlarging its facilities for synthetic yarn production. It is offering a complete line of rayon of various descriptions as well as its nylon production which has been available again for civilian use only since last September.

FRIDEN CALCULATOR SALES AGENCY, Charleston, S. C. ***Office machines.***

The Friden model "ST" automatic calculating machine is being featured.

GAYLORD CONTAINER CORP., St. Louis, Mo. ***Boxes.***

This company specializes in corrugated or solid-fiber shipping containers especially adapted to many textile requirements.

INTERNATIONAL BUSINESS MACHINES CORP., New York, N. Y. ***Office machines.***

IBM is featuring the electric punched-card accounting machine; time-recording, signaling, and indicating equipment; and the Electromatic typewriter. Emphasis is placed on the Electromatic executive model which accomplishes proportional spacing of letters by shifting the carriage one, two, or three units of space in conformity with the width of the letter.

MARCHANT CALCULATING MACHINE CO., Oakland, Calif. ***Office machines.***

The automatic "Silent Speed" calculators are offered by this company.

THE MERROW MACHINE CO., Hartford, Conn. ***Sewing machines.***

Butted seaming models of its overstitch sewing machines are featured by this manufacturer. These machines are designed primarily for use in cotton and woolen mills. Other models, said to operate at about 4500 r.p.m., are specially adapted for use on blankets, pillowcases, work shirts, etc.

MONROE CALCULATING MACHINE CO., Inc., Orange, N. J. ***Office machines.***

Calculating, adding and listing, and bookkeeping machines are offered by Monroe.

NORTH AMERICAN RAYON CORP., Elizabethton, Tenn. ***Rayon.***

Continuous-filament viscose rayon, ranging from 50 den. 24 fil. to 1100 den. 480 fil. in various tenacities and lusters, is available from this company.

OWENS-CORNING FIBERGLAS CORP., Toledo, Ohio. ***Fiberglas.***

This firm produces glass-fiber yarns and fabrics for a wide number of industrial uses.

RAILWAY SUPPLY & MFG. CO., Cincinnati, Ohio. ***Cotton fibers.***

This concern supplies Rayco filler material for mattress manufacture. It also offers specially cleaned cotton fibers for various uses.

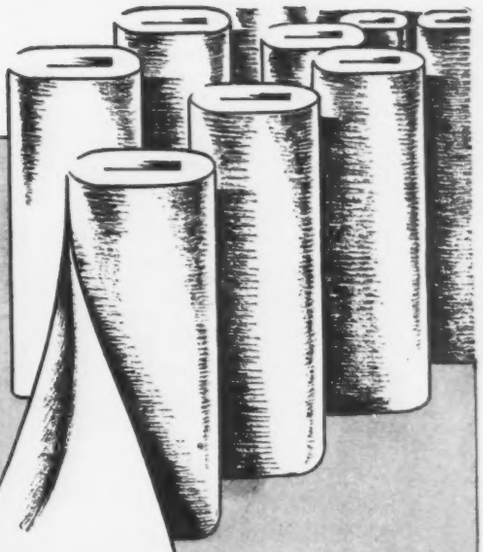
TOLEDO SCALE CO., Toledo, Ohio. ***Industrial scales.***

A complete range of scales for mill use is being shown by Toledo. The line includes models for cotton and shipping, picker laps, starch and cloth, dyestuff, commissary items, and general uses.

Dealers and Supply Houses

THE FOLLOWING dealers, supply houses, engineers, etc. would also have shown at Greenville. Some of the products they handle are listed in the Show-in-Print under the names of the manufacturers.

Batson Mfg. Co., Greenville, S. C.
Carolina Specialty Co., Charlotte, N. C.
A. F. Fyans, Fall River, Mass.
Greenville Textile Supply Co., Greenville, S. C.
Henry H. Hersey, Greenville, S. C.
Hollister Moreland Co., Spartanburg, S. C.
Huntington & Guerry, Greenville, S. C.
W. A. Kennedy Co., Charlotte, N. C.
Oliver D. Landis Co., Charlotte, N. C.
Montgomery & Crawford, Spartanburg, S. C.
C. H. Patrick, Salisbury, N. C.
Piedmont Products Co., Charlotte, N. C.
J. E. Sirrine & Co., Greenville, S. C.
Slaughter Machinery Co., Charlotte, N. C.
Stodghill & Co., Atlanta, Ga.



Available

now in sufficient quantities to supply all demands

PENN SALT

Hydrogen peroxide

H_2O_2

Chemical engineers responsible for formulae and processes depend upon this unique bleaching agent . . . produced under Penn Salt's rigid standards of uniformity.

100 VOLUME: TECHNICAL GRADE and higher purity grades, including LOW PHOSPHATE and U. S. P. (when diluted with distilled water yields U. S. P. quality).

110 VOLUME: LOW PHOSPHATE AND LOW ACIDITY grades.

130 VOLUME: TECHNICAL grade.

Penn Salt Hydrogen Peroxide is supplied in 120-lb. carboys and 265-lb. drums.

OTHER PENN SALT PRODUCTS FOR THE TEXTILE INDUSTRY

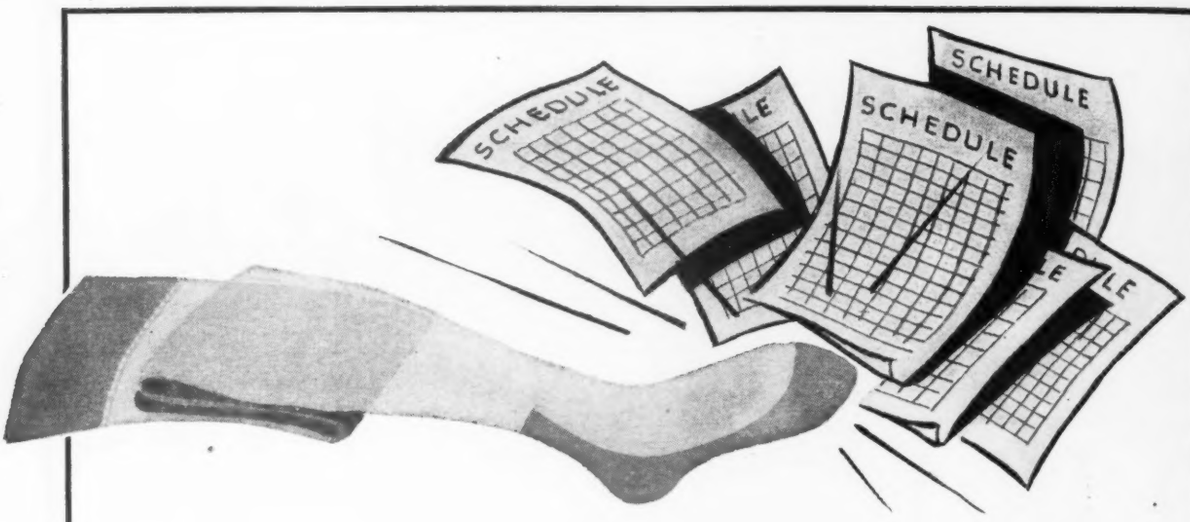
Caustic Soda • Soda Ash • Sulphuric Acid • Hydrochloric Acid • Chlorine • Perchloron • Sodium Hypochlorite • Chloride of Lime • Bleaching Powder • Carbon Bisulphide • Ammonium Persulphate • Potassium Persulphate • Anhydrous and Aqua Ammonia.

PENNSYLVANIA SALT MANUFACTURING COMPANY

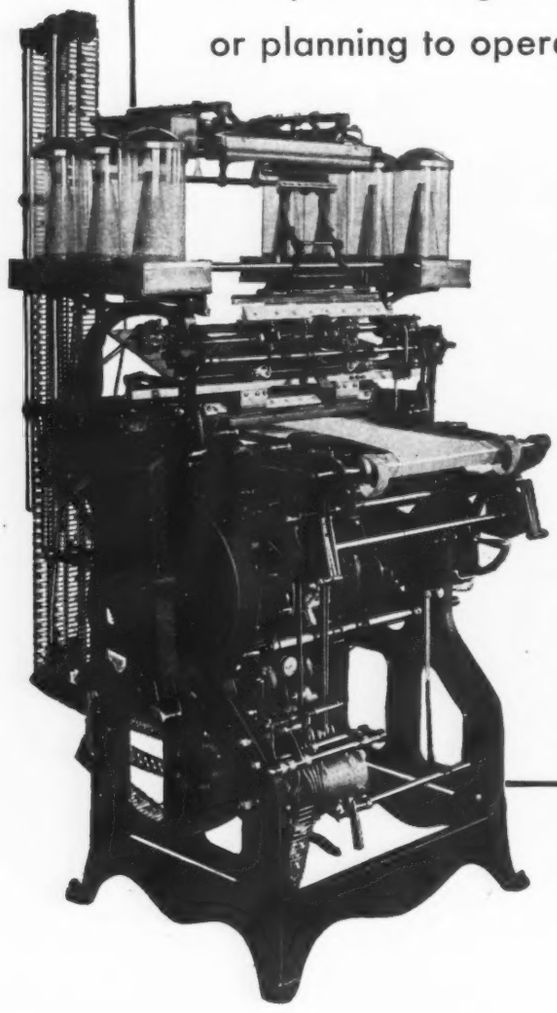
Chemicals

1000 WIDENER BUILDING, PHILADELPHIA 7, PA.

NEW YORK • CHICAGO • ST. LOUIS • PITTSBURGH • CINCINNATI • MINNEAPOLIS • WYANDOTTE • TACOMA



Don't Let Stocking Production Scramble Your Schedules The pent-up demand for sheer stockings let loose upon the industry has multiplied problems and troubles for the average hosiery mill . . . the outstanding exception being those alert mills which are operating or planning to operate with the



WILDMAN

Single-head, Single-unit, Full-fashioned

HOSIERY MACHINE

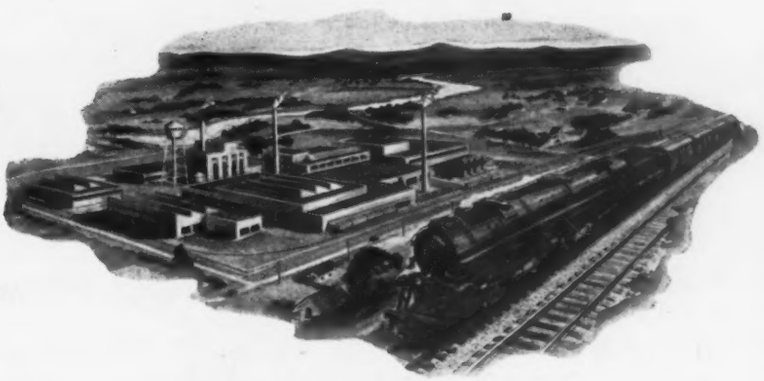
Regardless of what type of yarn—this most unusual machine knits the complete stocking, perfect from top to toe in ONE CONTINUOUS OPERATION, not only saving time but eliminating the rejects and seconds always incident to the bad matching of leggers and footers. Lots of other outstanding operational advantages that we'd like to tell you about. Write for details.

WILDMAN MFG. CO. **Norristown, Pa.**

U. S. SAVINGS BONDS STILL THE BEST INVESTMENT

LOOKING FOR A HOME?

Starry-eyed couples are having a tough time finding homes these days . . . but down-to-earth industrialists, seeking plant locations are in luck. There is plenty of room in the rich territory between the Midwest and the Virginia seacoast . . . and midway between the North and the South. Here, textile industries in particular, find excellent plant sites, with plenty of space to expand. This productive area, served by the Norfolk and Western Railway, offers: intelligent native labor, an abundance of all-purpose bituminous coal, a climate suitable for year 'round industrial operations, a great quantity of near-by raw materials, a friendly tax program, ample water and power. And world markets are easily accessible through the year 'round ice-free port of Norfolk, Virginia . . . via the Precision Transportation of the Norfolk and Western Railway. If you're an industrialist looking for an ideal place to locate or relocate your textile plant, you'll find it here.



Hundreds of textile operators have already discovered the numerous advantages of this important territory. For detailed and confidential information, write to the Industrial and Agricultural Department, Norfolk and Western Railway, Roanoke 17, Virginia.

Norfolk and Western
RAILWAY
FOR BETTER PLANT LOCATIONS

QUALITY RICHMOND PRODUCTS

NYLTEX
FOR KNITTING
NYLON

Use in trough

Keeps Needles, Sinkers, and Machines Clean

Does Not Strip Size

Send for FREE Sample

NYLTEX

RICHMOND OIL, SOAP & CHEMICAL CO., Inc.
1041-43 FRANKFORD AVE.
PHILADELPHIA 25, PA.

WAMESIT WARPER Co.
Warp Machinery

40-44 Church St.
Lowell, Massachusetts
Telephone Lowell 2-3347

Textile Machinery
Designed by Engineers
formerly with
T. C. Entwistle Co.

Manufacturers of:

Replacement Parts for all types of Warping Equipment, including Combs as formerly made by a Warping Machine Manufacturer in Lowell.

Cotton and Rayon Beam Warpers

Ball Warping Machines

Narrow Fabric Warpers

Intermediate Dresser Stand for Woolen and Worsted Warp Yarns

Electric Stop Motions for Silk Warpers

All types of Expansion, Warper, Beamer and Slasher Combs

Expansion Neck Reeds

News of the month

OPA Allows Advance. An upward ceiling-price revision on nearly all cotton fabrics and yarns amounting to 5 to 10% was announced by OPA effective Mar. 8. It was said that this rise was allowed to offset increases in labor and cotton costs since August, 1945. OPA also issued a lengthy regulation for makers of men's and boys' clothing (MPR 607) designed as an incentive to lower-priced items by giving wider margins to cutters in those lines.

Raw Silk at $11.75. On Feb. 28 the War Assets Corp. announced results of sealed bid sale of 3,308 bales of silk taken over by the government in 1941 on the basis of $3.08 per lb. The average price of the sales was reported as $11.75. Hosiery mills which bought 100 bales each include: Arcadia, Claussner, Clementon, Excello, Kayser, Lynchburg, May-McEwen-Kaiser, No-Mend, Pohatcong, Proper-McCallum, Shannon, Standard, Tower, Triumph, and Vance.

COTTON WEEK this year is scheduled for May 20 to 25, supported as usual by Cotton-Textile Institute and National Cotton Council. "Cotton Is Back" has been chosen as the slogan for the event which will be marked not only by merchandise presentations in retail stores across the nation but also by cotton carnivals and community programs in many of the cotton growing and textile manufacturing centers in the Southern states. Above is the official poster.

THIS IS THE 1946 MAID-OF-COTTON chosen from numerous contestants for the honor. She is Gwin Barnwell, the daughter of Mrs. Mildred Barnwell Andrews who was until recently executive secretary of the Southern Combed Yarn Spinners Association, Gastonia, N. C. Her family for four or five generations has been closely identified with cotton. Under the sponsorship of the National Cotton Council, the Memphis Cotton Carnival, and the cotton exchanges of New York, New Orleans, and Memphis, she has been outfitted with an extensive cotton wardrobe and will make personal appearances on a tour of some 30 cities from coast to coast. She will return to Memphis for the Cotton Carnival, May 13 to 19.

Cotton Market in Germany. A ready market will be found for U. S. cotton in Germany in the future if an acceptable means of exchange can be arranged, and if other matters, such as price, can be solved to the mutual advantage of Germany and the United States, according to Robert C. Jackson, who has made a survey of the German cotton-textile industry. Mr. Jackson now is connected with Coker Pedigreed Seed Co., Hartsville, S. C. His observations on the German textile situation, together with brief comments on the Swiss and Italian textile industries, are presented in a 44-page report, No. 4495 in the OPB series of scientific and industrial reports by Publication Board, Dept. of Commerce, Washington 25, D. C. National Cotton Council says that real progress is being made on plans to secure agreement from France, Great Britain, and Russia to allow shipment of American cotton into zones occupied by each of the four great powers.

Product Diversification. C. H. Masland & Sons, Carlisle, Pa., rug and carpet manufacturers since 1886, are now offering a complete line of specially designed hunting and fishing clothes. This move is a striking example of postwar product diversification. The new line is being

For a filament acetate size with HIGH LOOM EFFICIENCY

Try CETASIZE

This high quality protein powder also offers these 6 ADDITIONAL ADVANTAGES

OUR LINE OF TEXTILE STARCHES GUMS, DEXTRINES AND SPECIALTY MATERIALS ALSO INCLUDES:

●

W GUM D and VICTORY K2W GUM
For sizing staple synthetic yarns and blends.

RTF GUM
For laundry resistant finishes.

KAC No. 4 with B2 or SUSSEX GUM
For use in Printing . . . higher color yield.

96R and VELVEEN XX
For sizing cotton.

RTC GUM
For sanforizing and weighting.

CETOSOL SF
For starchless finishes.

SHO-PAL THICKENER and BINDER
For pigment printing and pigment dyeing in water dispersions . . . excellent wash fastness.

1. **Complete uniform product.**
2. **Size easily removed.**
3. **Runs clean on the machine—no foam.**
4. **No softeners required.**
5. **Easily prepared.**
6. **Replaces other sizing materials which may be difficult to obtain.**

An increasing number of plants are enjoying these values in their regular production. Whether you're weaving rayon now or planning to weave it, prove for yourself that CETASIZE is the answer to your filament acetate warp sizing problem.

ORDER A SAMPLE TODAY—
AND ASK FOR A DEMONSTRATION

80 Years of Starch Service

STEIN HALL

285 MADISON AVENUE
NEW YORK 17, N. Y.

1011 JOHNSTON BLDG., CHARLOTTE 2, NORTH CAROLINA
210 GROSVENOR BLDG., PROVIDENCE 1, RHODE ISLAND
250 VAN HORN STREET, TORONTO, CANADA

OFFICES IN OTHER PRINCIPAL UNITED STATES CITIES
LABORATORIES AT NEW YORK, CHARLOTTE, PROVIDENCE, CHICAGO

EST. 1866

A TEXTILE STARCH FOR EVERY TEXTILE PURPOSE

ATTENTION MILL MEN!

If you have rats or mice, and want to be rid of them without the worry that the use of poison involves, send your order at once.

We have prepared a bait that contains red squill, a drug from the Mediterranean which is harmless to humans, cats or dogs, but has the special qualities that mean *DEATH TO THESE RODENTS.*

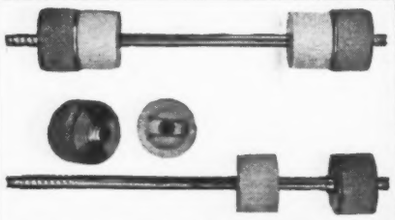
Our R. C. Baits, baked in cookie form, are readily eaten by rats and mice, and have been used successfully with great satisfaction. All you do is scatter our R.C. Baits in infested areas.

No. B 1501— 100 baits—$4.00
No. B 1502— 250 baits— 7.50
No. B 1503— 500 baits—12.50
No. B 1504—1000 baits—20.00

"It's worth the price because it does the work without danger to human life."

Your check, or purchase order, will assure you prompt delivery. We pay all shipping charges except on C.O.D. orders.

RODENT CONTROL CO.
220 Broadway, New York 7, N. Y.



SPACER-BOBBIN SPINDLE

Adaptable to long or short bobbins . . . spacers are self-locking and removable. Spindles made to your specifications so you can use two different length bobbins on the same spindle, on the same machine, without changing the spindle.

Wayne Manufacturing Co.
Honesdale, Pa.
Manufacturers of Textile Mill Supplies

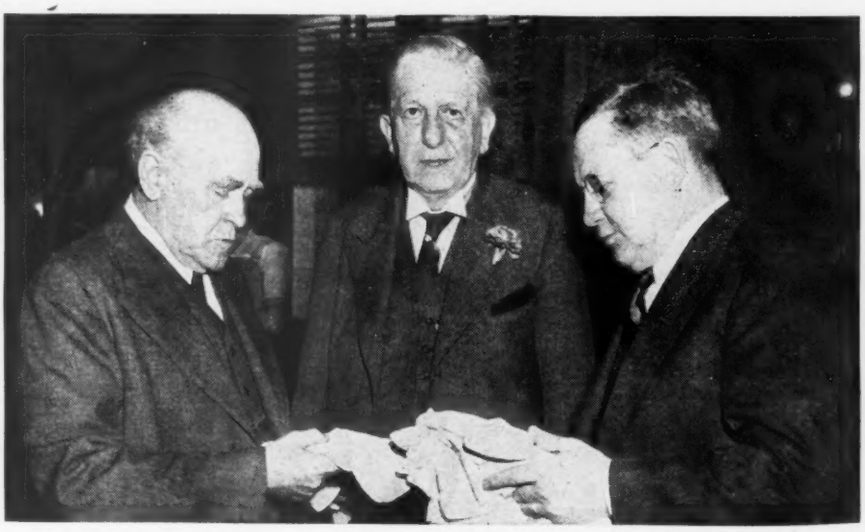
fabricated in a building separate from the carpet mill and uses none of the materials or machines necessary for rug weaving. Wallace Bracken is in charge.

Old Brands Honored. Long-established names in the textile and wearing apparel industry were honored recently when the Brand Names Research Foundation presented "certificates of public service" to 206 firms at a testimonial dinner at the Hotel Astor. Belding Heminway Co. (1832), Hat Corp. of America (1838), William Skinner & Sons (1848), and Mallory Hat Co. (1817) were the four oldest companies in the apparel field to receive certificates. Other companies receiving awards, together with date of corporate birth, included: Fleisher Yarns, Inc. (1867); Bernhard Ulmann Co., Inc. (1867); Manhattan Shirt Co. (1869); S. Stroock & Co., Inc. (1870); A. G. Spalding & Bros. (1876); Lion Brand Yarn Co. (1878); Bates Fabrics, Inc. (1878); Julius Kayser & Co. (1880); Propper-McCallum Hosiery Co., Inc. (1884); Cluett, Peabody & Co. (1885); Nazareth Waist Co. (1886); Robert Reis & Co. (1888); Botany Worsted Mills (1891); Warner Brothers Co. (1874); The B.V.D. Corp. (1876); E-Z Mills, Inc. (1866); Alexander Smith & Sons Carpet Co. (1845); C. H. Masland & Sons (1886); Bigelow-Sanford Carpet Co. (1886).

Jap Silk Coming. Three thousand bales of Japanese silk, the first shipment of its kind for nearly five years, were to be shipped to the United States during February, the Japanese newspaper, *Yomiuri-Hochi*, reported. Sale will be by sealed bids and credit from the sale of the silk will be used for food imports.

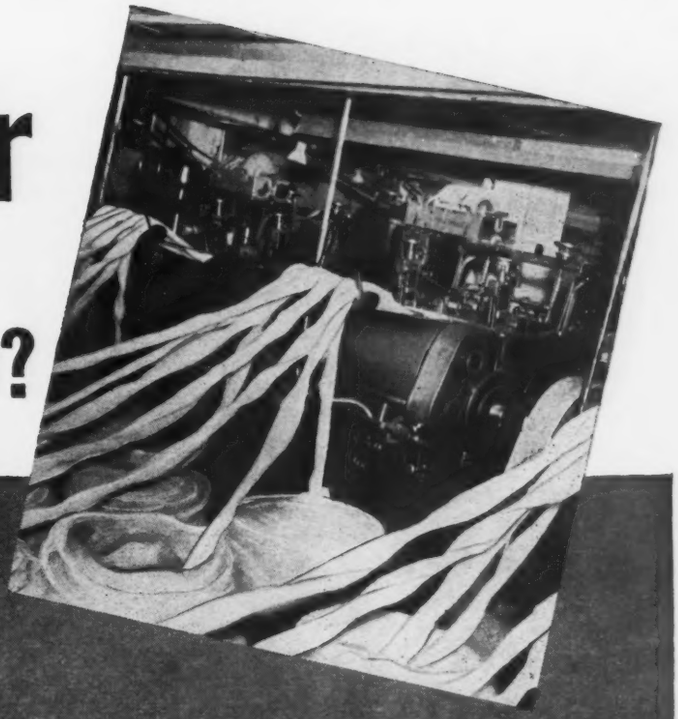
ENJOYING a post-broadcast chat backstage at Mutual's Longacre Theater in New York are Dr. Claudius T. Murchison (left), president of The Cotton-Textile Institute and guest authority recently on the Science Series "Exploring the Unknown", and Orson Welles, guest star on the program sponsored by Revere Copper & Brass, Inc.

Army Teaching Textiles. The Army Industrial College operates under the direction of the Under Secretary of War; commandant of the college is Brig. Gen. Donald Armstrong. It was established in 1924 to train officers in the supervision of procurement and industrial mobilization. For nearly two years, however, the college has concentrated upon the training of officers and civilians in war procurement, termination of contracts, and disposal of surplus property. Now it is returning to its original objective and is conducting an "interim" six months' course to educate demobilization (the regular yearly course will begin in September). The college has



UNDERWEAR, which has almost vanished from the shelves of the nation's stores due to OPA regulations that serve to restrict the flow of much-needed civilian goods, is shown to Senators now investigating factors limiting the use of cotton. (Left to right) Senator John H. Bankhead, Alabama, Chairman of the Senate Committee on Agriculture; Senator Clyde Hoey of North Carolina, member of the subcommittee, and Roy A. Cheney, president of the Underwear Institute.

What is Your Main Top or Yarn Production Problem?



CHECK YOUR PROBLEM BELOW — LET NOPCO CP SOLUBLE HELP YOU SOLVE IT

PROBLEM		SOLUTION
Fiber breakage?	☐	Nopco CP Soluble minimizes fiber breakage because, being thoroughly and easily dispersed in emulsion, it assures uniform lubrication.
Fly or Waste?	☐	Nopco CP Soluble acts as a binder to prevent fly or waste in combing, drafting and spinning.
Excessive Soap Costs? Slow Scouring Time?	☐	Nopco CP Soluble materially reduces soap costs and virtually insures easy, complete scourability because it is 100% saponifiable—contains no mineral oil.
Polymerization?	☐	Nopco CP Soluble polymerizes in a slow, steady manner which is recognized as being of particular assistance in the drafting and spinning processes because it induces the correct amount of drag without excessive friction.
Rancidity?	☐	Nopco CP Soluble leaves no odor in the finished goods.
Cost?	☐	Nopco CP Soluble is economical—usually 1-3% oil on the fiber being sufficient for improved results.
Uneven Dyeing? Off-color Shades?	☐	Nopco CP Soluble permits level dyeing and brilliant clear-toned shades because residual oil content after scouring is usually well under 0.5%.

OTHER ADVANTAGES—Nopco CP Soluble imparts a drag equal to that of Olive Oil. It reduces static. It is highly resistant to oxidation. Safe for top, yarn or goods in gray storage and resin finishes for shrinkproofing. Write for more complete information.

NOPCO
REG. U. S. PAT. OFF.

NATIONAL OIL PRODUCTS CO., HARRISON, N. J.
Branches:
BOSTON, CHICAGO, CEDARTOWN, GA., RICHMOND, CALIF.

NOPCO CP SOLUBLE

100% Saponifiable Wool & Worsted Oil

EVOLVED THROUGH RESEARCH

LAZENBY

FILLING WINDERS

Produce Filling of maximum yardage in Cop, Butt and Bobbin form for plain or automatic looms at minimum operating cost and maintenance.

Send us a small supply of your yarn for Test-Wind Report and Catalog.

F. A. LAZENBY & CO.

3106 Elm Ave., Baltimore 11, Md.

Solves the Problem of Mailing List Maintenance!

Probably no other organization is as well equipped as McGraw-Hill to solve the complicated problem of list maintenance during this period of unparalleled change in industrial personnel.

McGraw-Hill Mailing Lists cover most major industries. They are compiled from exclusive sources, and are based on hundreds of thousands of mail questionnaires and the reports of a nation-wide field staff. All names are guaranteed accurate within 2%.

When planning your direct mail advertising and sales promotion, consider this unique and economical service in relation to your product. Details on request.

McGraw-Hill Publishing Co., Inc.
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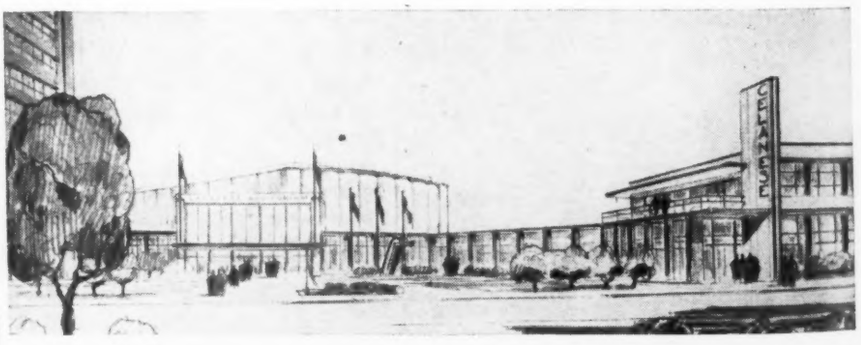
330 West 42nd St., New York, 18, N. Y.

advisory committees; for example, there is a Textile Advisory Committee dealing particularly with cotton textiles.

India Wants Mills. Typical of the current interest on the part of British India, in American machinery is a 10 million dollar order placed with the International Projects Corp., New York, by one of India's titled figures who is undertaking a new 2,000,000 acre agricultural, textile, and manufacturing development. The textile share in this enterprise is itemized as follows: All equipment necessary from sowing to harvesting cotton; cotton saw-ginning plant, $100,000; yarn mill, $200,000; textile mill $800,000 to $1,000,000.

News Briefs. National Association of Wool Manufacturers will hold its 81st annual meeting at Hotel Commodore, New York, on Apr. 9 . . . Cotton Manufacturers Association of Georgia will hold its 46th annual meeting at Oglethorpe Hotel, Savannah, Ga., May 2 and 3. . . . National Foreign Trade Week has been set for May 19 to 25 under sponsorship of the Chamber of Commerce of the United States, Washington, D. C. . . . . A commercial delegation from the government of India is currently in China exploring the possibility of selling short staple Indian cotton to the Chinese. India is said to have a large cotton surplus at present time. . . . . "A New England Revelation" is the title of a promotion to be presented by Filene's of Boston beginning on May 15. Ponemah, Bates, Verney, and Textron are some of the textile mills cooperating on the style end of the show. Ten top-flight New York fashion designers will also cooperate. . . . The Gibson Island Conference under the auspices of the American Association for the Advancement of Science will be held from June 17 to Aug. 23. Textiles will be featured from July 8 to 12. Sumner B. Twiss, Wayne University, Detroit 1, Mich., is in charge. . . . "The Building Center of New England" is being established at 367 Boylston St., Boston as a headquarters for information and displays related to all the materials which go into home building and equipping. . . . Export Managers Club of New York held its 26 annual get-together at Hotel Pennsylvania, New York, Mar. 19 and 20. . . . . National Knitted Outerwear Association held its 28th annual meeting and banquet on Mar. 21. . . . Fabric Futures, Inc., a textile exposition in Los Angeles planned for August, has been postponed. . . Products-of-Tomorrow Exposition planned for April 27 in Chicago has been postponed.

FOUR-COLOR, SCREEN PRINT by Manequin Fabrics, New York, features the brand name of Lentheric's perfume "A Bientot", which forms the design motif on a white background. Mayeyoff Blouse Co. designed and manufactured the blouse which will be sold in leading department stores and specialty shops throughout the country at approximately $20.



CELANESE CORP. OF AMERICA will have the building sketched above in San Francisco's six-million-dollar "Apparel City". Celanese has announced its participation in the project with an investment of about $250,000. Work is underway in clearing the 32-acre site which during the war contained temporary Navy housing. Celanese has agreed to a long-term lease on the building which will house display rooms, sales office, auditorium, and stock facilities. Mrs. Nora Geer, manager of West Coast fabric operations for Celanese, states that her company is not only planning to serve western manufacturers from the new location, but expects contact with the Orient and other Pacific trading areas.

We Keep Digging . . . but It Keeps Snowing!

When it began to snow orders on SOLVAY, we began to step up our production to keep apace. But no matter how hard we work, the snow of orders keeps getting heavier. We are honestly doing our best to deliver what you want, all you want, when you want it. We appreciate your co-operation, and we thank you for your understanding. As the Chinese proverb says . . . the picture tells our story. There is one thing you can be sure of . . . no matter how great the demand, the quality of SOLVAY Alkalies will always be the finest.

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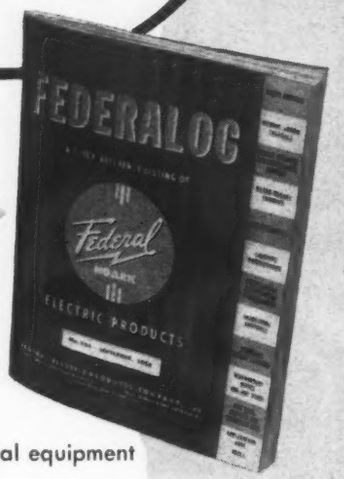

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NEWS ABOUT SUPPLIERS

(Continued from page 176)

dustry, both domestic and foreign, the technical knowledge necessary for the design, supervision of construction, and operation of plants for the manufacture of rayon, as well as those for production of purified cellulose and cellulose products. The company functions similarly for textile plants on either natural or synthetic fibers, or both. Office is at 857 Boylston St. Heading the new organization is Gustavus J. Esselen, whose connection with the rayon industry began in 1914. Associated with him in the new company is Martin H. Gurley, Jr. The secretary is Richard M. Nichols.

Aridye Corp., Fair Lawn, N. J. has added E. R. Adair to its staff as technical representative, with headquarters at Rock Hill, S. C. He was connected with Southern Bleachery & Print Works, Inc., from 1933 to 1943. He served in the Army and more recently was on the sales staff of F. H. Ross & Co.

Nuodex Products Co., Elizabeth, N. J., has named George H. Moyer to the newly-created post of manager of its Chicago district. Mr. Moyer, whose offices remain at 600 South Michigan Ave., has represented the company since last March. The headquarters for the Western Division is at Chicago.

Ciba Co., Inc., New York—Frank B. Common, K. C. of Montreal, Canada, has resigned as chairman of the board and is succeeded by Alfred F. Lichtenstein. Dr. Harry B. Marshall has been elected president of the company and there are two new vice presidents: S. I. Parker and J. P. Bauer. The company recently held a dinner and dance for its employees to commemorate its 25th anniversary.

Sylvania Industrial Corp., New York has organized a sales and technical division to handle its Ceglin textile finishes, and will sell directly to the trade in the future. Up until the present time Aridye Corp. and Aqua-Sec Corp. have been acting as sales agents for these finishes.

Textile Industry Research Inc., New York, N. Y., has moved to larger quarters on the 21st floor of 10 East 40th St., New York.

Werner Textile Consultants, Inc., New York and **P. O. M. Co.**, New York have appointed Landmann, Filhos & Cia, Ltd., of Sao Paolo, Brazil, as their agent.

EDWARD E. HELM, general sales manager of The Reliance Electric & Engineering Co., Cleveland, Ohio, who has been elected sales vice president of the company.

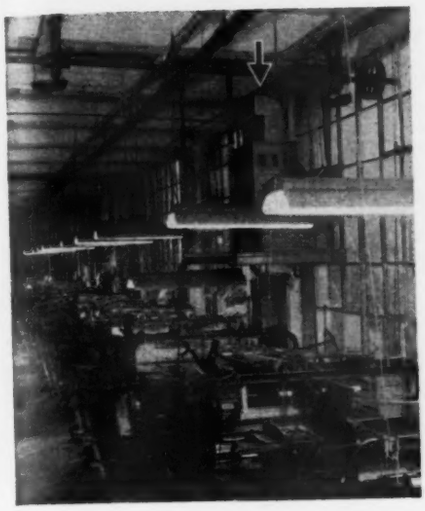
North American Rayon Corp. and **American Bemberg Corp.** have appointed Warner H. Hutchinson as mid-Western representative with offices at 222 W. Adams Street, Chicago, Ill.

Oscar Kohorn & Co., Ltd., New York—Oscar Kohorn, president of this company, Dr. Joseph L. Costa, and Ralph Kohorn have just returned from a six-weeks' survey of rayon plants in England, Europe, and Egypt. They have reopened their office in London at 75 Victoria Street, in charge of L. Trevor Edwards.

Clinton Co., Clinton, Iowa, has changed its corporate name

JAMES W. STALLINGS, who has been appointed by Penick & Ford, Ltd., Inc., as director of their Southern textile research and service laboratories, Atlanta, Ga., a division of the Research & Development Department of that organization. Mr. Stallings was formerly with the textile research division of Rohm & Haas Co. He will make his residence in Atlanta.

HUMIDITY AT LOW COST



Two small Air-Perme-Ators maintain 60% relative humidity in this 95,000 cubic foot weave shed.

No costly central system required. Air from outside is charged with moisture by means of molecular suspension. No free moisture.

Simple to install and easy to maintain, in warping, winding, carding, spinning and weaving sheds, knitting plants and dye houses.

Write today for "Bulletin AT"

AIR-PERME-ATOR MFG. CO.

8 Stout St. **Paterson, N. J.**

CAMACHINE 40-3L is designed especially for the purpose of producing straight or bias bindings as used by manufacturers of underwear, corsets, garments, etc.

GET FACTS

WRITE FOR THIS FOLDER

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The Winning Finish!

YOU'RE BOUND to be way out in front if you finish your fabrics with EXSIZE... the desizer which is a concentrate of natural enzymes, with no trace of harsh alkalis, acids, or destructive chemicals.

EXSIZE works quickly, gently, gives a soft elastic feel, uniform absorbency . . . a good "hand." And what's more a few cents' worth will desize hundreds of yards of cotton or cotton-mixed goods.

Why not have our Pabst Technical Man show you the advantages of this famous desizer right in your own mill . . . or use our laboratories for your tests? We'll be delighted to send free booklet on request.

PABST BREWERIES

Copr. 1946, Pabst Brewing Company, Milwaukee, Wisconsin.

PABST SALES COMPANY
CHICAGO, ILLINOIS
Warehouses at Jersey City, and Textile Warehouse Company, Greenville, S. C.

NEWS ABOUT SUPPLIERS

to Clinton Industries, Inc. Personnel and address remains as heretofore, as also the name of the subsidiary Clinton Sales Co., Inc.

Pittsburgh Plate Glass Co., Pittsburgh, Pa., has made the following promotions: Joseph G. Thompson, Jr., to assistant general plant manager; Fergus A. O'Connor, to supervisor of dealer sales; Nelson A. Mason, to supervisor of maintenance-painter sales; Leonard W. McGarity, returned from Navy, supervisor of paint department sales to the company's stores; Kenneth E. Whitekettle, returned from the Army, supervisor of brush sales.

Bristol Co., Bristol, Conn., has appointed G. H. Gaites, formerly regional sales supervisor of the Cleveland and Pittsburgh sales territories, to be district manager of the company's New York office.

Mathieson Alkali Works, New York, has appointed Nelson F. Wilmot as Chicago district sales manager and Merle S. Clark as St. Louis district sales manager.

Yale & Towne Mfg. Co., Stamford, Conn., has appointed Meade Johnson as marketing manager and Frank Boxwell as manager of builders' hardware sales. V. A. Waldron has been assigned to the New England sales territory. John Meyer will sell in Kentucky and Tennessee, and George Cannon will cover Michigan.

Fairbanks, Morse & Co., Chicago, have appointed E. L. Stine as supervisor of scale service with headquarters in Chicago. Leonard J. Maguire has been promoted to assistant chief engineer of the St. Johnsbury, Vt. works of the company.

Westinghouse Electric Corp., Pittsburgh, Pa., has appointed William G. Miller as manager of the headquarters manufacturing staff. In the new post, Mr. Miller will be responsible for the headquarters manufacturing activities of the equipment, manufacturing engineering, production, quality control, and wage incentives departments.

Philadelphia Quartz Co., Philadelphia, has promoted John C. Russell to sales manager. He has been associated with the company since 1924, and was appointed assistant sales manager in 1942.

MAX. B. KAESCHE, who has been appointed field sales supervisor of Sandoz Chemical Works, Inc. He has been associated with Sandoz since the founding of the sales organization in this country in 1919. He recently returned from active duty after having served as major on the Staff of the Third Army in Europe.

American Lava Corp., Chattanooga, Tenn., has established a field engineering service in charge of Samuel J. McDowell. The office will be located in the New York Metropolitan area.

Dayton Rubber Mfg. Co., Dayton, Ohio, has appointed L. B. Gordon as director of engineering.

New York & New Jersey Lubricant Co., New York, will celebrate the 50th anniversary of Non-Fluid Oil on April 21. Joseph H. Bennis, president of the company, also celebrates his 50th year with the company.

Hooker Electrochemical Co., Niagara Falls, N. Y. has recently assigned Neil M. Barber to its sales staff covering upper New York state and Northern Pennsylvania, with headquarters at Niagara Falls.

Hercules Powder Co., Wilmington, Del., has appointed Frank G. Oswald as assistant sales director of its Synthetics Department.

Naugatuck Chemical Division of United States Rubber Co., Naugatuck, Conn., will spend over $2,000,000 to expand its facilities in a three-way program (1) to meet increased demands for rubber chemicals, latex, dispersions, etc.; (2) for production of new plastics; (3) to further general scientific research.

5 WAYS TO SPEED YOUR NYLON HOSIERY PROCESSING

Maintain smooth production flow — Improve hosiery quality

- LAUREL Coning Oil #443 for better conditioning
- LAUREL Nynit C for better knitting
- LAUREL Supergel for cleaner hosiery
- LAUREZOL #6 for level shades
- LAUREL Peramel for fine appearance, lasting finish

These **5** LAUREL NYLON Hosiery Processing Agents will enable you to speed up adequate stocks for your share of the tremendous demand for Nylon hosiery.

LAUREL NYLON Hosiery Processing Agents give you a hard-to-beat combination: **1.** an excellent conditioner, makes for better knitting; **2.** an effective lubricator, prevents sticking in pre-boarding operation; **3.** a thorough scour, leaves hosiery clean, ready for dyebath; **4.** an active dispersing agent, has greater penetration, produces level shades; **5.** a lasting finish, adds to the beauty and appeal of your hosiery.

Tested and used pre-war by well-known mills and dyehouses, LAUREL NYLON Hosiery Processing Agents will give you a head start. Phone, wire or write today for trial order and directions for use.

• SOAPS • OILS • FINISHES •

LAUREL SOAP MANUFACTURING CO., Inc.

Wm. H. Bertolet's Sons • *Established 1909*

WAREHOUSES—PATERSON, N. J. • CHATTANOOGA, TENN. • CHARLOTTE, N. C.

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You get *SPLIT-SECOND timing*

When You Use a

THOMPSON
Electric Stop-Timer

Easier to Use than a Stop-Watch and *Easier to Read*

If your test or production procedures call for split-second timing, use a Thompson Electric Stop-Timer. This precision instrument is accurate to 1/5 second. It is more satisfactory than a stop-watch because its large 3″ dial makes it easier to read. And its more practical size and greater durability readily make it an integral part of your testing equipment. It can easily be installed permanently into your test-bench control panels when desired.

The Thompson Stop-Timer is instantly started or stopped by the pressing of a button. A third button resets the hands at zero. Synchronous motor operates on 110-volt AC, 50 or 60 cycles. And it's made for years of service, by the makers of the movements for Western Union clocks.

For test equipment, laboratories, control panels, many production processes.

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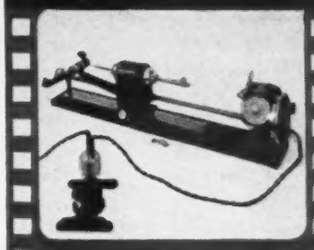
First showing of the new

"THY-MO-TROL"

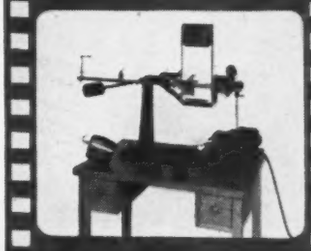
Control — giving constant specimen-rate-of-load on "J" pendulum type testers

ALSO SHOWING:



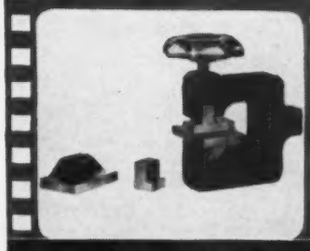
DOUBLE-ACTION TWIST COUNTER

Both heads turn, greatly speeding the test. Many improvements.



IP-2 SERIGRAPH

Light crepeage and tensile tester, from single filament to 2,000 grams.



NEW FABRIC CLAMP

New method of holding, gives results showing tensile strength increase up to 10%. Available for both vertical and horizontal machines.

See them at the Show

A Welcome awaits you at **BOOTH 114**

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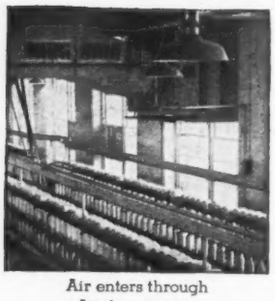
SCOTT TESTERS, Inc.

95 BLACKSTONE ST., PROVIDENCE, R. I.

Own Your Own Weather

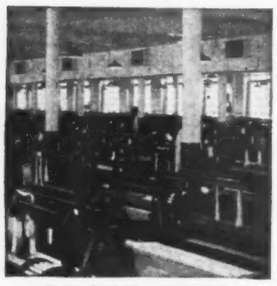


Air enters through Airchanger unit

Regain higher and more dependable. Greater strength and more uniformity in numbers.

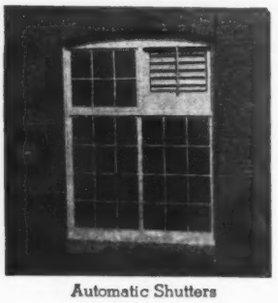
Or through central station air washer

Drafting of Fibers smoother and more compact. Waste and fly reduced to a remarkable degree.



Propelled through ducts

Fewer Breaks. Not as many stops or piecings. Not as many adjustments. Cleaner and very much more comfortable rooms.



Automatic Shutters let heat out

Better Product. And very often as much as 2% more production.

Certified **CLIMATE** with its exclusive method of control has been known to PAY FOR ITSELF in a year, or less.

Parks-Cramer Company

Fitchburg, Mass. Charlotte, N. C.

NEWS ABOUT *Mills*

Cotton Mill News

Ada Webbing Co., Pawtucket, R. I., has been organized with capital of 100 shares, no par value, to operate a local mill. Jacob Goodman, 20 Waltham St., Pawtucket, is principal incorporator.

Atlanta Textile Mfg. Co., Atlanta, Ga., owned by Jerome and Kenneth B. Conner, will open a branch mill in McDonough, Ga.

Bath Mills, Inc., Bath, S. C., plan an addition, and bids for contract will be asked soon. Six Associates, Inc., Asheville, N. C., are architects.

Best Mills, Inc., a Delaware corporation, has been negotiating with Jacob Ziskind, for the purchase of Brookside Mills, Knoxville, Tenn., plant and inventory.

Carolina Yarn Mfg. Co., Gastonia, N. C., has incorporated in North Carolina to manufacture yarn, cloth, etc., with authorized capital of $250,000. Incorporators are H. G. Drake and L. B. Hollowell, both of Gastonia, N. C., and Merle H. Beatty, of Dallas, N. C.

Calhoun Mills, Calhoun Falls, S. C., a 48,000 spindle plant have been sold to Ely & Walker Dry Goods Co., St. Louis, Mo.

Chicopee Mfg. Co., Cornelia, Ga., has awarded general contract to Daniel Construction Co., Greenville, S. C., for the erection of a one-story, 152 x 427 ft. mill to weave monofilament yarns into insect screens, upholstery fabrics, etc. The plans were prepared by Robert & Co.

Clyde Fabrics, Inc., Newton, N. C., have under construction a brick building which will house mills No. 1 and No. 2.

Columbus Mills, Inc., Columbus, N. C., have been installing new machinery and will be in operation soon. The mill will produce narrow fabrics up to 2 in. wide. Chas. Ramsey is superintendent.

Copeland Fabrics, Inc., Burlington, N. C., has awarded general contract to J. O. Bayliff for a one-story addition. The plans were prepared by J. E. Sirrine & Co., Greenville, S. C. Cost with equipment, about $50,000.

Dallas Cotton Mills, Dallas, Tex., plan to increase production. New machinery will be installed and 200 additional employees taken on.

Diana Mills, Inc., formerly Falls of The Neuse Mills, 10 miles eact of Raleigh, N. C., have been sold to Jack C. Turk Co., New York. After extensive alterations by J. M. Thompson, Raleigh contractor, machinery, about 90% of it new, will be installed. Irvin Turk will be manager and W. T. Worrells superintendent of the plant.

Fullerton Cotton Mills, Inc., Newnan, Ga., have been incorporated and will operate a textile manufacturing and processing plant, with a capital stock of $250,000.

Gurney Mfg. Co., Gastonia, N. C., has bought the former Prattville Cotton Mills, Inc., Prattville, Ala. After additions and repairs, the mill is operating at near capacity.

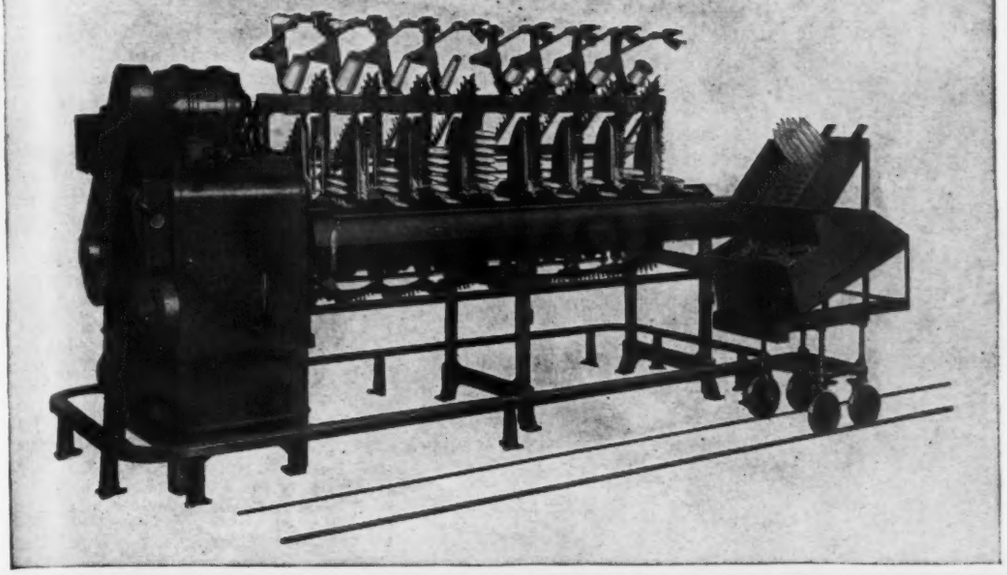
Joanna Textile Mills, Inc., Goldville, S. C., has awarded contract for a 40-home housing project costing $453,435 to J. A. Jones Construction Co., Charlotte, N. C.

Johnston Mills Co., Charlotte, N. C., will begin work soon on a two-story addition for which contract was let to J. A. Jones Construction Co., Charlotte. Cost reported close to $100,000 with equipment.

Lincoln Warping Co., Pawtucket, R. I., has recently been formed for commission warping and slashing of cotton, rayon, and blends. Henry J. Le Duc is president and treasurer.

Newberry Cotton Mills, Newberry, S. C.—Control of this mill is being sought by the Lowenstein interests which own

AUTOMATIC BOBBIN WINDER

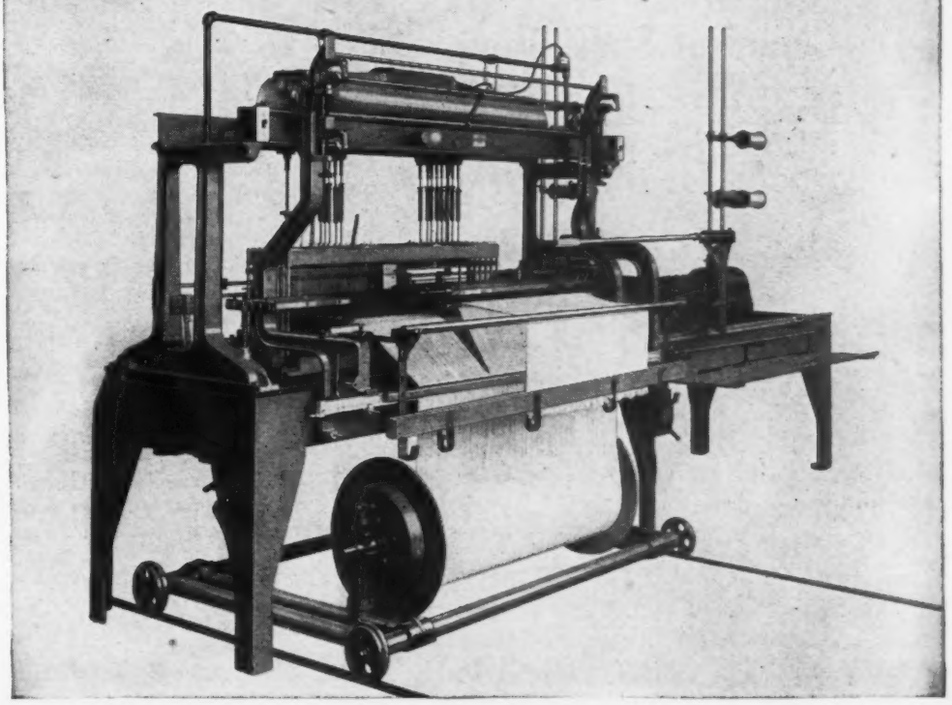


The operator puts empty bobbins in the machine and yarn packages on the top of the frame, removes full bobbins from the delivery chains. All the operations are fully automatic. Two types of this machine are available — one for synthetics with chain delivery and one for cotton with automatic doffing.

BARBER-COLMAN MACHINES
THAT WOULD HAVE BEEN AT THE TEXTILE SHOW

This machine provides greater capacity to handle high sley warps and fancy patterns characteristic of modern goods. It is made in several sizes and capacities up to a maximum of 120" reed width to draw up to 24 harnesses, 8 banks of drop wires, and reed. It can be used on rayon, cotton, or wool.

STEEL HEDDLE DRAWING-IN MACHINE



AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • DRAWING-IN MACHINES

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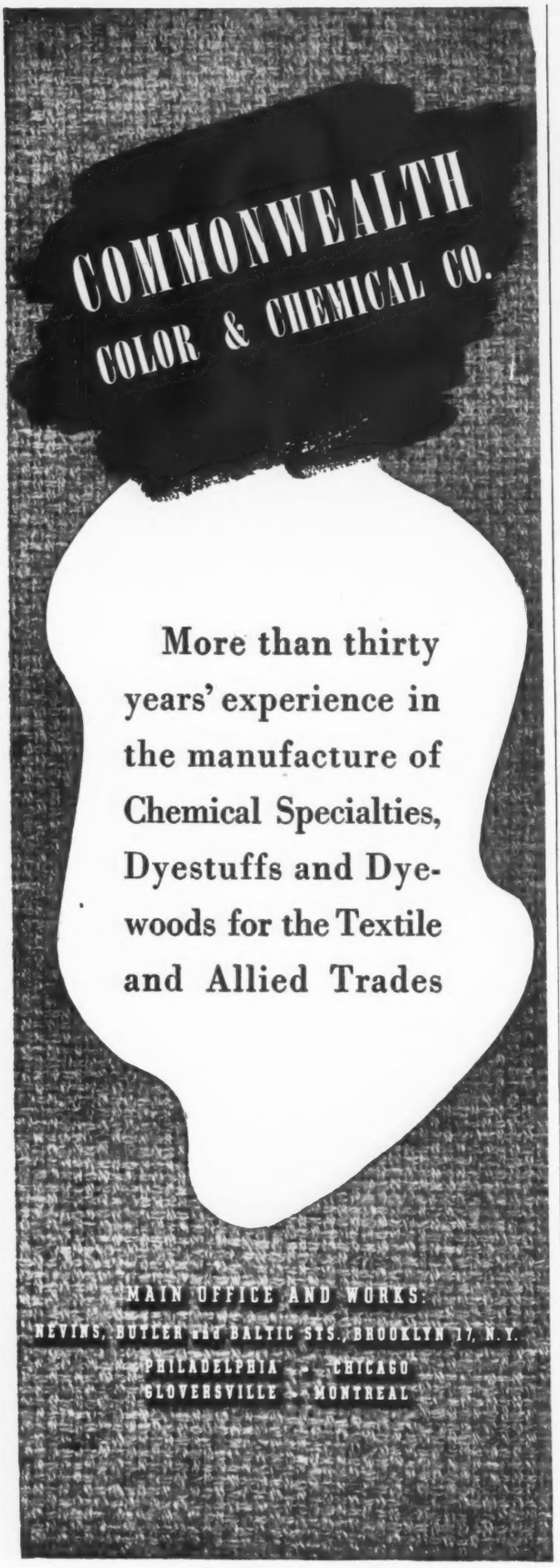
ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U. S. A. MANCHESTER, ENGLAND


COMMONWEALTH
COLOR & CHEMICAL CO.
More than thirty years' experience in the manufacture of Chemical Specialties, Dyestuffs and Dyewoods for the Textile and Allied Trades
MAIN OFFICE AND WORKS:
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the Rock Hill Printing & Finishing Co.

Proximity Mfg. Co., Greensboro, N. C., has placed Werner Textile Consultants, Inc., and P. O. M. Co., both of New York, in charge of making a complete survey of machines and manufacturing conditions in the card and spinning rooms of the White Oak plant. The assignment includes installation of modern materials handling equipment.

Rancho Cotton Mills, Salisbury, N. C., referred to last month is the incorporation of the previously existing Maple Mills.

W. Robinson & Son Converters Ltd., Woodbridge, Ont., plans to erect a new cotton mill during 1946 adjacent to the present dyeing and finishing plant. The new one-story building will have 140,000 sq. ft. of floor space. The foundations are already completed and the structure is expected to be ready for installation of machinery by August. The plant will produce cotton gray goods.

Southeastern Textiles, Inc., Griffin, Ga., has under construction a modern one-story building with basement. There are 24,000 sq. ft. of floor space.

Springs Cotton Mills, Lancaster, S. C., has begun installation of 40,000 additional spindles. Carding and weaving equipment has already been installed in a recently completed building.

Superba Mills, Inc., Hawkinsville, Ga., plans to double its present size and capacity.

Texas Textile Mills, Dallas, Tex., are building a 20-foot addition to the mills which will be used for four new offices, made necessary, by the addition of a new line of printed goods, as part of the mills' reconversion program. A new cotton warehouse will also be built.

Virginia Braid Co., Charlottesville, Va., has been purchased by Coventry Co., Coventry, R. I., and the name changed to Virginia Textiles, Inc.

Waverly Braid Mills, Gastonia, N. C., practically destroyed by fire on Dec. 11, is being rebuilt. The company expects to resume production of shoe strings within 60 days.

Wool Mill News

Arcadia Woolen Mills, St. Joseph, N. B., Canada, recently started production of woolen yarn in a new mill equipped with 1 picker, 1 set of 48 in. cards, two mules, and twisting, spooling, and dyeing equipment. Louis LeBlanc, owner, plans later to increase the plant's capacity.

Arlington Mills, Lawrence, Mass., have a new mending, burling, and cloth examining room on the second floor of No. 18 mill, with a floor space of 60,100 sq. ft. A connecting bridge has been constructed between the new room and the weave room.

Brighton Woolen Mills, Inc., New York, N. Y., have taken over a mill at Forestdale, R. I., for weaving fancy woolens and worsteds. S. Solomon is president, C. Solomon, treasurer, and W. Rothschild, superintendent.

Chauvin Spinning Co., Inc., Woonsocket, R. I., recently formed with capital of 500 shares, plans operation of local mill. Berthelot A. Leclaire, 301 Harris Ave., Woonsocket, is principal incorporator.

Dunmar Robes Mfg. Co., Inc., Fall River, Mass., has been chartered with capital of $50,000 to operate a woolen mill. John W. Adams is president.

Excelsior Mills, Union, S. C., have announced plans for constructing a dye plant and a large addition to the finishing department in the near future.

Halifax Worsted Mills, Halifax, Va., a division of Pacific Mills, awarded contract to C. M. Guest & Sons, Greensboro, N. C., for construction of a modern weaving mill, which, it is reported, will be of windowless design and have air conditioning throughout.

Marino Woolen Co., Woonsocket, R. I., has been incorporated to operate a local mill. John R. Higgins, Woonsocket, is principal incorporator.

Mohawk Mills, Ltd., Hamilton, Ont., recently awarded general contract for alterations to its plant and for the construction of a good-size addition. Work is to start at once.

Thomas Oakes & Co., Inc., Bloomfield, N. J., has been sold

for EASY...QUICK pH CONTROL TESTS . . .

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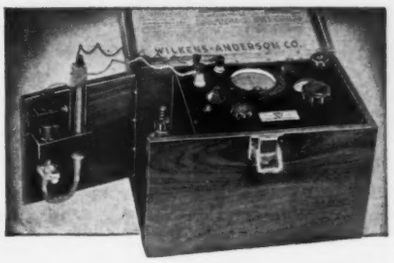

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to the Horvath interests, which now operate Phillipsburg Textile Print Works, Phillipsburg, N. J.; Clark Mills, Clark Mills, N. Y.; and Fultonville Mills, Fultonville, N. Y.

Royal Duluth Mills Co., Duluth, Minn., recently established, will open a modern 24-loom woolen mill with over 70,000 sq. ft. of floor space. Between $350,000 and $500,000 worth of new machinery will be installed in a building now being rehabilitated. R. D. Alworth is president; M. H. Alworth, vice-president, treasurer, and general manager; John D. Brumbach, superintendent.

Sebago Woolen Co., Bridgeton, Me., has increased its total number of employees from 90 to 179 since S. Goldlust took over nine months ago. The plant will be further modernized.

Worcester Woolen Mills, Leicester, Mass., have engaged John D. Hulslander, Worcester, Mass., to prepare plans for a one-story, 48 x 125 ft. mill addition.

Rayon & Silk Mill News

Burlington Mills Corp., Greensboro, N. C., will spend more than $8,000,000 in 1946 and 1947 for additions and improvements to plants and equipment, according to a report filed with the Securities & Exchange Commission. Funds for this program will be obtained through the sale of preferred stock, which the company has registered with SEC.

Celanese Corp. of America, New York, has taken over the Tubize Rayon Corp. as a result of approval of the merger plan by Celanese stockholders. Similar action had been taken by Tubize stockholders. Under the merger terms each share of Tubize 4¼% preferred stock will be exchanged for one share of Celanese $4.75 first preferred stock, and each share of Tubize common will be exchanged for two-thirds of a share of Celanese common. Consolidation of these two companies brings together total assets of $150,000,000. Celanese expects to double its 1945 value ($100,000,000) this year as a result of the expansion program now well underway. New plants are being built at Bridgewater and Verona, Va., and Rock Hill, N. C. Plants at Hopewell, Va., and Newark and Belvedere, Va., are being taken over. The plant at Narrows, Va., is being enlarged. Contract for the warp-knit fabric plant at Bridgewater, Va., has been awarded to Geo. F. Hazelwood.

Havana, Cuba—A rayon plant will soon be erected near here if present plans are carried out. American engineers will lay out the plant which, it is said, will be associated with existing textile interests in Cuba. It is understood that a continuous process production system will be used.

Klots Corp., Scranton, Pa.—Mill of this company has been purchased by Stern & Stern, 1359 Broadway, New York, N. Y., textiles, which will operate property in future for a weaving mill.

Tennessee-Eastman Corp., Kingsport, Tenn., in its $5,000,000 expansion program plans, among other things, two 150 x 500 ft. two-story buildings, one for acetate yarn production and the other for acetate staple.

St. Malo, Que.—Establishment of a new viscose rayon plant is now under consideration by American and Canadian interests. The proposed plant would produce about 5,000,000 lb. of rayon staple and 2,000,000 lb. of viscose filament annually. The Canadian sponsor is the Dionne family of St. George de Beauce, Que., which owns the Dionne Spinning Mills, Inc.

Stark Bros. Ribbon Corp. of Canada, Ltd., Granby, Que., is asking bids on construction of a one-story, 200 x 200 ft., extension to its mill. Estimated cost is $200,000.

Syntex Corp., Mooresville, N. C., a newly established firm, will begin operation soon. Among the stockholders are J. F. Mathewson and C. W. Gunter, who are president and general manager, respectively, of Mooresville Cotton Mills.

Philip Weiss Corp., Scranton, Pa., has purchased the mill property until recently occupied by Stewart Silk Corp. The mill contains 360,000 sq.ft. of floor space and will, according to reports, be used as a weaving mill.

Zephyr Looms & Textiles, Ltd., Ormstown, Que., have a new plant nearing completion and will begin production early

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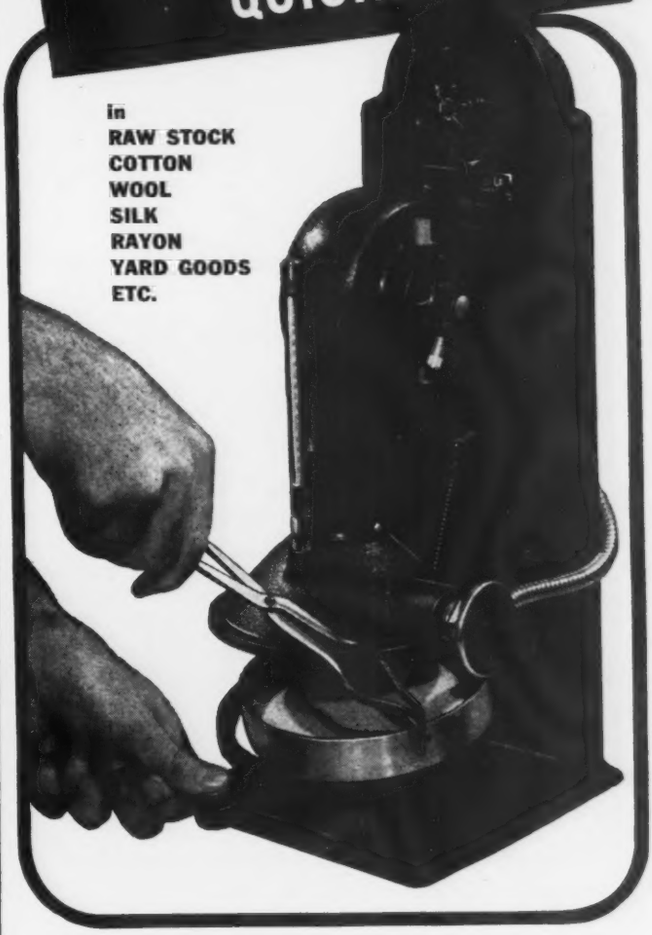

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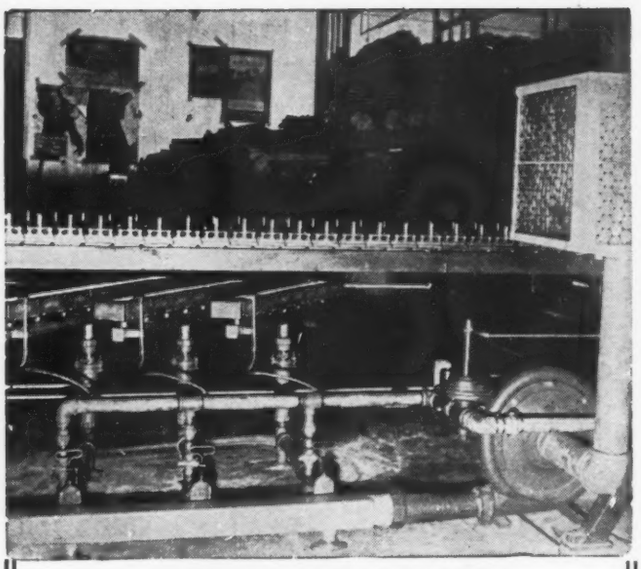

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in March of spun rayon yarns, rayon and wool blends, and worsted yarns. The one-story, 100 x 300 ft., building will be windowless and air-conditioned.

Knitting Mill News

Adams-Millis Corp., Tryon, N. C., will spend $400,000 for improvements and new equipment. The program will double processing department equipment and increase the knitting department by 25%.

Angus Mills, Inc., Vass, N. C. has been chartered with an authorized capital of $50,000 to produce plain knit cotton cloth. R. B. P. Forrest, of Philadelphia, is president; A. M. Cameron, of Vass, vice president and manager; W. W. Forrest, of Philadelphia, treasurer.

Atlantic Knitting Co., Providence, R. I., has changed its name to Aftex, Inc., and increased capitalization to $50,000.

Bland Silk Hosiery Mills, Bland, Va., recently installed four new machines to increase production and has started making nylon hose.

Bothwell Mills, Newton, N. C., recently organized, plan early operation of a hosiery mill. R. L. Bothwell and R. J. Parker are principal incorporators.

Chipman Knitting Mills, Easton, Pa., plan a million dollar expansion program which will boost production by 80%. A new one-story brick building will be completed by next spring and put into operation during the summer. All knitting rooms are being air-conditioned and equipped with fluorescent lighting.

Comet Hosiery Co., Knoxville, Tenn., has been incorporated by David H. Jackson, Harry B. Davis, and Wilson D. Smith. This is a new concern.

J. B. Fawcett Co., Columbia, Tenn., has been formed to manufacture anklets and other hosiery by J. B. Fawcett, recently manager of the Tennessee Knitting Mills.

Forest City Knitting Co., London, Ont., recently purchased a large brick residence in Glencoe, Ont., and is preparing to use it as a knitting mill.

Fulton Hosiery Mills, Inc., 502 North Davidson St., Indianapolis, Ind., has been formed to manufacture hosiery. The incorporators are A. J. Barskin, R. H. Blenz, and C. E. Stevens.

Hugh Gray Hosiery Mills, Concord, N. C., will widen the first floor of its plant by 14 ft. to accomodate longer full-fashioned knitting machines; and will add a second floor, which will be half the area of the first, to hold the seaming, looping, inspection, and storage departments.

Hill Hosiery Mill, Marietta, Ga., has under construction a $10,000, 60 x 80 ft. building. Production is scheduled to start immediately with 39 machines on anklets.

Hudson Hosiery Co., Charlotte, N. C., has purchased about $500,000 worth of new equipment to be installed this year. The erection of a new dye plant is being planned at the Oakhurst Mill.

Jaclyn Hosiery Mills, Inc., Camden, S. C., will be established by Lt. Col. James C. Stewart. The 80 x 100 ft. building, which will house the initial installation of full-fashioned hosiery machines, will be built on a 50-acre plot.

Jantzen Knitting Mills, Portland, Ore., are opening a knitted wool goods mill in Rio de Janeiro with machinery from the United States.

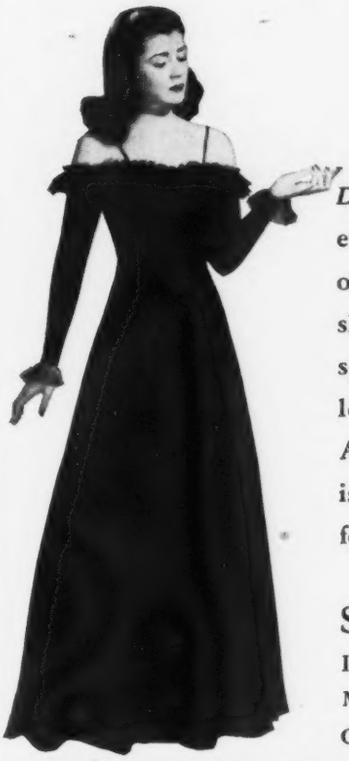
Kingcraft Hosiery Co., Mint Hall, N. C., which started operation a few months ago in the plant of the former Kingston Hosiery Mill, is adding five 51-gage full-fashioned machines at a cost of about $75,000.

Lowrance Knitting Mills, Kernersville, S. C., plan construction of a $100,000 cotton hosiery mill, tentatively to be started within two months. Frank A. Lowrance, Charlottee, N. C., is president and general manager.

Macon Hosiery Mills, Macon, Ga., has filed application for a charter. A plant will be constructed this summer on a site to be selected soon and machinery has been ordered. Calder B. Clay will be president.

Mauch Chunk, Pa.—Clyde B. Houser, Philadelphia, Pa., has purchased the Midway Theatre Building in East Mauch Chunk and will convert it into a hosiery mill early in the spring. The

Lasting Beauty



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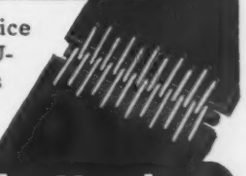

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plant will operate on a small scale for some time.

McTavish Sportswear Corp., Wallingford, Conn., has been incorporated to manufacture knitted apparel.

Morris Hosiery Mills, Inc., Denton, N. C., has asked bids on a contract for a one-story addition and will make the award soon. Tyson T. Ferree, High Point, N. C., is architect.

Munsingwear Corp., Minneapolis, Minn., awarded contract to Lippert Brothers Construction Co., Oklahoma City, Okla., for the erection of a $200,000 hosiery mill building at Rogers, Ark. Work has begun. This will be one of the largest seamless nylon hosiery mills in the world.

Old Fort, N. C.,—A new hosiery mill will be opened by E. W. Parker, Jr., and Nelson Parker of Marion, N. C., who have leased a building; 50 to 75 workers will be employed.

Philcord Hosiery Co., Inc., Concord, N. C., has been granted a certificate of incorporation, with an authorized capital stock of $100,000. The stock holders include O. F. Metana, Kathryn Krause, and Mrs. Bertha Gera, of Concord. It succeeds the Penn-Carol Hosiery Co., of which Mr. Metana is president.

Phoenix Hosiery Co., Milwaukee, Wis.—Production of children's hosiery will be transferred to the Beaver Dam, Wis., plant when it is completed to provide more room for production of men's and women's seamless hosiery in Milwaukee, where 400 new knitting machines will be installed. All finishing will be done in Milwaukee.

Porter Mills, Inc., Culman, Ala., will establish a new knitting mill. A large building is being converted and a bleachery installed for the new plant.

Reid & Holden, Hickory, N. C., have begun installing hosiery equipment in a plant in Newton, N. C., and expect to start production soon.

St. Hyacinthe, Que.—George Nicholas plans to erect a knitting mill in May. Plans are being prepared by G. Rene Richer, St. Hyacinthe.

Super Spun Knitting Co., Joliette, Que., has asked bids for the erection of a one-story, 84 x 154 ft., mill building.

Ware Knitters, Inc., Ware, Mass., will open another plant, at Berlin, N. H., this month.

Dyeing & Finishing Plant News

Acme Finishing Co., Pawtucket, R. I., plans an expansion that will be effected through a $267,182 mortgage taken by the RFC.

Bud Fabrics, Inc., York, S. C., has been organized and granted a charter to manufacture, dye, finish, and print cotton, wool, and synthetic cloths. J. C. Cloninger is president and F. T. Cloninger, treasurer. They are president and treasurer, respectively, of York Mills, Inc., York. F. T. Cloninger is also treasurer of Neely Cotton Mills, York.

Dartmouth Finishing Corp., New Bedford, Mass., has been incorporated to operate a bleaching, printing, and finishing mill. Andrew McNicol is president.

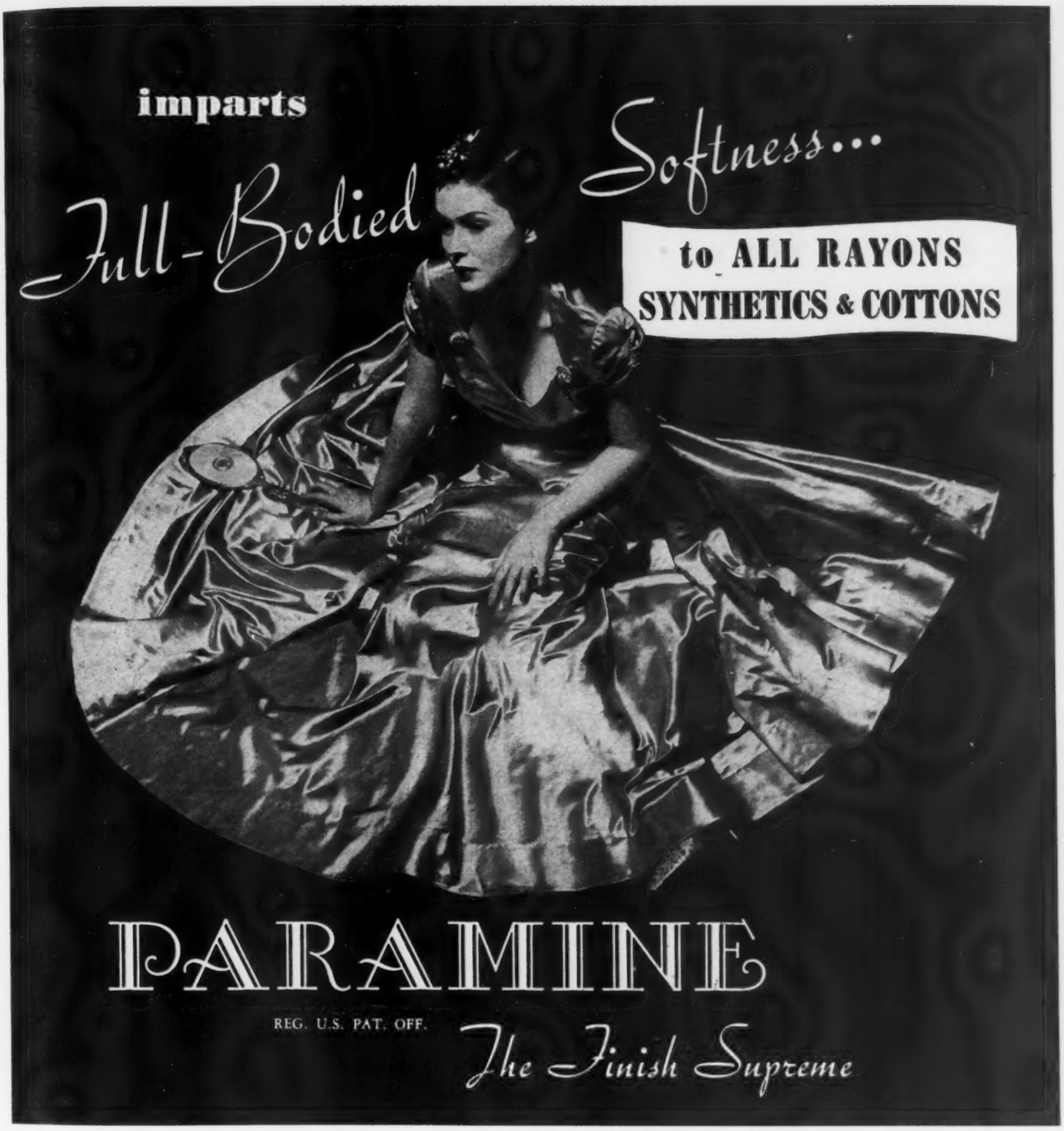
Mid-West Processors, Inc., Libertyville, Ill., a new dyeing and processing plant organized by Carl E. Bick, president and treasurer, has let contract for a $50,000 building.

New London Print Works, Inc., New London, Conn., has been incorporated with $50,000 capital. Incorporators, all of New London, are Charles Suisman, Joseph Suisman, and Mary Keeney.

Southern Bleachery & Print Works, Inc., Taylors, S. C., will begin foundation soon for a one-story addition to the finishing department. General contract was let recently to Daniel Construction Co., Greenville, S. C. J. E. Sirrine & Co., Greenville, are architects and engineers.

Thies Dyeing Mills, West Warwick, R. I., are building a three-story, 50 x 60 ft. addition. Contractors, all of Providence, R. I., are: general, E. J. Hollen; roofing, Geo. L. Parker Co.; sash, G. Fred Swanson.

Virginia Dyeing Corp., Emporia, Va., has been granted a charter and will engage in dyeing, finishing, and processing, with a maximum authorized capital of $100,000. Lewis F. Powell, Jr., is president.



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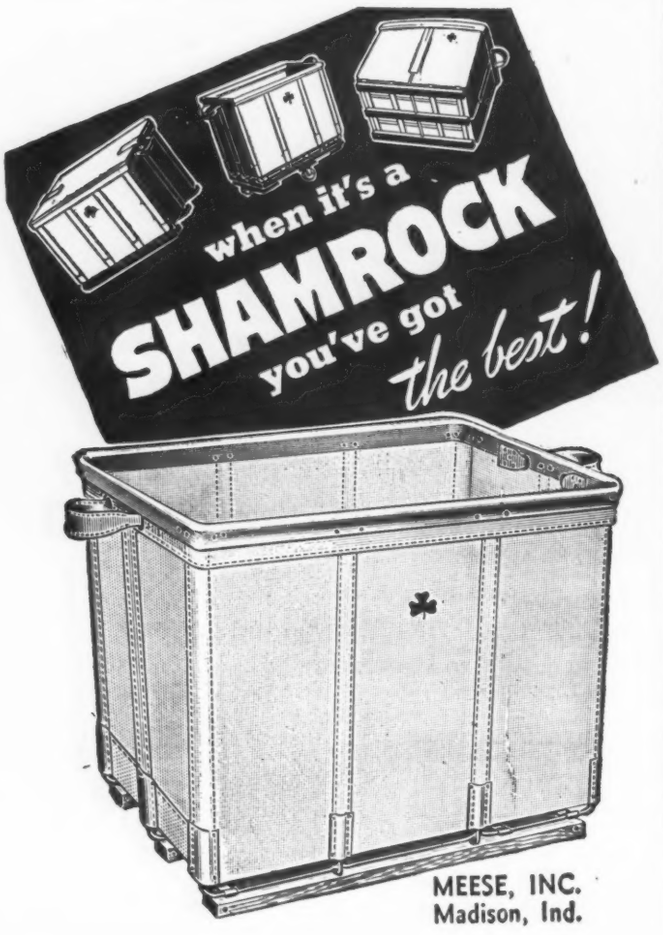

NEWS ABOUT *Men*

Rudolph C. Dick has been elected president of the Naumkeag Steam Cotton Co., Salem, Mass., and now occupies the offices of president and treasurer. He succeeds **Henry P. Benson** who has held the office of president for the last 25 years. Mr. Benson has been elected chairman of the board.

W. Ray Bell was reelected president of The Association of Cotton Textile Merchants of New York, on Feb. 18. The following were elected to office for the current year: **George M. Miller,** of Turner Halsey Co., succeeds **Saul F. Dribben,** of Cone Export & Commission Co., Inc., in the office of vice-president, and **R. Edgar Benson,** of Woodward, Baldwin & Co., succeeds **Charles A. Sweet,** of Iselin-Jefferson Co., as treasurer. **John L. Severance** was reelected secretary.

S. R. Fuller, Jr., president of North American Rayon Corp. and American Bemberg Corp., New York, has been elected chairman of the Rayon Producers Group of America, succeeding **Sir Samuel A. Salvage,** of American Viscose Corp., head of the organization since its inception in 1930.

John F. Matheson has been elected president of the newly-organized Syntex Corp., with plant at Mooresville, N. C. Other officers are: **A. Alex Shuford,** vice-president; **C. W. Gunter,** second vice-president; **W. M. Norman, Jr.,** secretary; and **E. C. Beatty,** treasurer.

Royal S. Little, president of Textron, Inc., and two other Textron officials were elected to the board of directors of the Nashua Mfg. Co. at the stockholders' 122nd annual meeting recently in Nashua, N. H.

Ward Cheney, who recently returned from the Navy, has resumed his position as president of Cheney Bros., South Manchester, Conn.

E. Owen Fitzsimmons, of Charlotte, N. C., former manager of the Cotton-Textile Institute's Washington office, has been named president and treasurer of the newly organized

MORTON SAVELL, who has been appointed managing director of the New York office of the International Wool Secretariat. Mr. Savell will go to England shortly to become familiar with new activities there and to put the Secretariat's American wool program into final form. He resigned his position with the Institute of Public Relations with which he has been associated for nine years. He was previously executive editor of "Today Magazine" and editor of the "Literary Digest."

Carded Yarn Association, Inc. Executive committee appointments were: **G. P. Barnwell,** of Macon, Ga.; **P. M. Neisler,** of Mayo, S. C.; **Philip Dana,** of Westbrook, Me.; **Leonard Moretz,** of Maiden, N. C., and **R. C. Forest,** of Uniontown, Ala.

N. L. Smith, formerly president of Chicopee Mfg. Co., Manchester, N. H., has been elected chairman of the board, and **Gustav O. Lienhard,** formerly executive vice-president, has been named president. **George E. Spofford, Jr.,** recently appointed general manager of the mill, has been elected vice-president in charge of all manufacturing operations. **Henry C. Harden** will continue as plant manager.

Roy W. Clements has been elected president of Globe Knitting Works, Grand Rapids, Mich. He has been vice president since 1931. Mr. Clements succeeds **Grover C. Good,** who becomes chairman of the board and continues as treasurer. **Milton Middy,** former superin-

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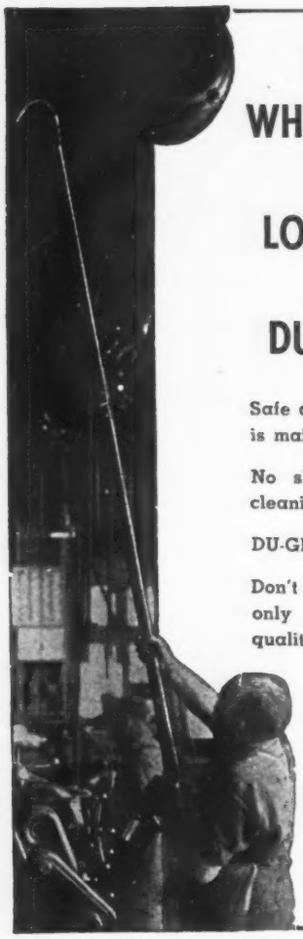

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HUYCK SANFORIZER and Palmer Blankets are daily meeting the most exacting requirements of finishers throughout the industry. From the lightest and finest fabric to the coarsest denim, there is a special Huyck blanket to meet your specific needs.

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PALMER BLANKETS—also available for your special requirements.

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KENWOOD WOOL PRODUCTS

F. C. Huyck & Sons
KENWOOD MILLS
Albany, New York

NEWS ABOUT MEN

tendent and buyer of supplies and equipment, was made assistant to President Clements.

Robert T. Stevens, chairman of J. P. Stevens & Co., New York, has been elected to the board of Alexander Smith & Sons Carpet Co.

H. S. McIntyre, Charlotte, N. C., **Bernard Weill** and **Stanley Rygler,** New York, have bought controlling interest in Rhodes-Rhyne Mfg. Co. and Indian Creek Mill, Lincolnton, N. C. Mr. McIntyre owns Amber Textile Mills, Anniston, Ala., and Mr. Weill and Mr. Rygler are president and treasurer, respectively, of Aristex Corp., New York.

Chas. A. Gibson has been elected president and treasurer of the former Calhoun Mills, Calhoun Falls, S. C., which have been taken over by Ely & Walker Dry Goods Co., St. Louis, Mo.

G. H. Milliken, New York, has been elected president of Pacolet Mfg. Co., which has plants in Spartanburg, S. C., Gainesville, Ga., and New Holland, Ga. He succeeds **David W. Anderson,** who has retired.

J. E. Sadler, former president of Duplex Envelope Co., Richmond, Va., has bought an interest in Dobson Hosiery Mills, Pulaski, Va.

Clarence A. Ross has been elected president and treasurer of the newly chartered Barbet Mills, Inc., Lexington, N. C. Mr. Ross also operates Brookwood Fabrics, Inc., and Hillcrest Knitting Co., Inc., Taylorsville, N. C., and Fairmont Fabrics Co., Gastonia, N. C.

P. E. Merritt has been elected president and treasurer of Mary-Leila Cotton Mills, Greensboro, Ga.

Richard Whitney, former president of the New York Stock Exchange, will head Ramie Mills of Florida, Inc., a new company which expects to produce yarn from ramie.

Col. Thomas W. Jones, QMC, commanding officer of the Quartermaster Purchasing Office, New York, was presented with the Legion of Merit on Feb. 15 by **Maj. Gen. Clifford L. Corbin,** former Director of Procurement, Office of The Quartermaster General in Washington.

Robert L. Richards has been appointed assistant manager of DuPont's Rayon Department, Wilmington, Del. **Robert A. Ramsdell** succeeds him as manager of the Nylon Division. **Charles M. Switzer,** Nylon Division director of production, has been made assistant manager of the division to succeed Mr. Ramsdell.

Carlos J. Echavarria, president, Compania Colombiana de Tejidos (Coltejer), Medellin, Colombia, and **Diego Uribe,** general manager, Fabrica de Panos Vicuna, Medellin, Colombia, a graduate of the Philadelphia Textile Institute, are visiting the United States. They will make headquarters at the Commodore Hotel, New York.

William H. Barnewell has been elected vice-president of Hartsville Print & Dye Works, an affiliate of the United States Finishing Co., Hartsville, S. C. Mr. Barnewell has also been appointed assistant sales manager of the United States Finishing Co., and Queen Dyeing Co., where he will assist **Royce N. Pharr,** vice-president of both companies. Mr. Barnewell will continue as sales manager of the Hartsville plant.

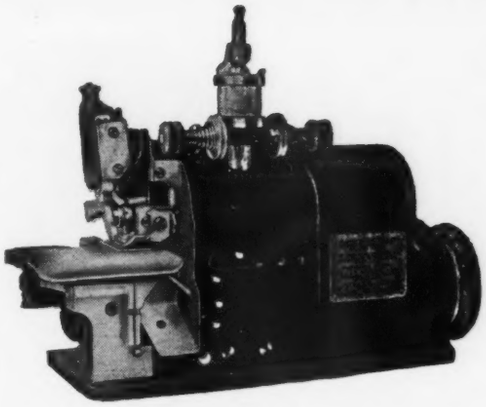
Marshal C. Stone has been named treasurer of Pacolet Mfg. Co., Spartanburg, S. C., to replace **David W. Anderson** who resigned after 50 years' service. Mr. Stone will continue as vice-president of the company's Gainesville and New Holland, Ga., mills.

Louis S. Stroock, now on terminal leave, has been appointed assistant to the executive vice-president of S. Stroock & Co., Inc., Newburgh, N. Y.

Horace C. Jones, recently released from the Army Air Forces, has been elected treasurer of James Lees & Sons Co., Bridgeport, Pa.

P. Leroy Lamb, who has been active in the management of Nonquitt Mill, New Bedford, Mass., since it was built in 1906, has submitted his resignation to the directors. Mr. Lamb has been the chief operating executive of the corporation since 1929, when he succeeded the late Leonard C. Lapham as treas-

F. D. Frissell, Jr., Burke M. McConnell and **Walter E. Greer, Jr.** were elected vice-presidents of Burlington Mills, Greensboro, N. C. recently.



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Convenient Handling

Minimum Time-Out for Adjustment

or Repair—Low Upkeep Costs

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for Quality and Low Cost

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KNITTING MACHINERY

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for seamless hosiery knitting

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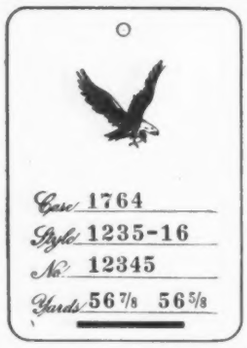
Up-To-Date Machines
Needles

Economy Makers

ACME KNITTING MACHINE & NEEDLE CO.

FRANKLIN, N. H.



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Designed Especially For
MARKING TEXTILE MILL TAGS TICKETS, LABELS, Etc.

Modern textile merchandising demands CLEAR, EASILY READ piece, lot and case numbers, size and yardage lengths, etc. Supply this demand and use the new American Speed Set Gear Construction Numbering Machines. Such numbering with Speed Set machines can be done quickly and easily. Numbers change instantly with touch of fingers and ANY COMBINATION OF NUMBERS can be quickly obtained. All steel wheels, deeply engraved figures, self inking.

Eliminate errors and see that your tags, tickets, labels, etc., are attractively and legibly numbered the SPEED SET way. WRITE TODAY FOR FOLDER describing these new machines used in Cotton, Woolen, Hosiery, Knit Goods, and Dyeing and Finishing plants.

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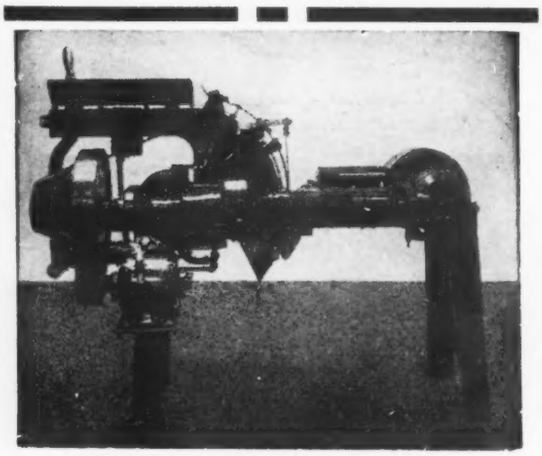

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James F. Notman.....Needham, Mass.—N. E. States
E. W. S. Jasper, Inc., Elizabeth, N. J.—Penna., N. J. and N. Y.
Geo. Thomas & Co.....Manchester, England—European Agt.

NEWS ABOUT MEN

urer. Mr. Lamb has joined Textron, Inc. **John F. Greene** was appointed general manager of Nonquitt Mills, succeeding Mr. Lamb, and **Col. Frederick W. Webbley** became treasurer.

John R. Hester, vice-president, assistant treasurer and director of North Carolina Fabrics Corp., Yadkin, N. C., has assumed the duties of plant manager, following the resignation of **John J. Valter.**

J. W. Burnett, Jr., has been elected vice-president and assistant treasurer of Southern Weaving Co., Greenville, S. C., succeeding **W. C. Cleveland.**

F. S. Love, of Rock Hill, S. C., who recently completed his service as captain in the Army, has taken up his new duties as secretary of the American Cotton Manufacturers Association, Charlotte, N. C. Before going into the Army, Mr. Love was secretary of the South Carolina Cotton Manufacturers Association with headquarters in Clinton, S. C.

Wilbert C. Hammel has been elected to the board of directors of Alexander Smith & Sons Carpet Co., Yonkers, N. Y., as vice-president in charge of sales.

Wallace E. Stoddard, Adams, Mass., retired Feb. 1 as vice-president of Berkshire Fine Spinning Associates. Mr. Stoddard has been in the textile industry for 51 years and for the last 39 years has been with Berkshire.

Stanley Llewellyn has resigned as vice-president of Inman and Riverdale Mills, Enoree, S. C.

Gardiner Hawkins will join United Merchants & Manufacturers, Inc., New York, in an executive capacity on Apr. 1. He entered the textile field in 1931 at Judson Mills, Greenville, S. C. He joined Deering Milliken & Co. in 1937 and became a vice-president of the company two years later. On leave from Deering Milliken, he became textile pricing executive for the OPA in Washington. Subsequently, he served as secretary-treasurer of the Rayon Yarn Producers Group, New York, from which he is resigning.

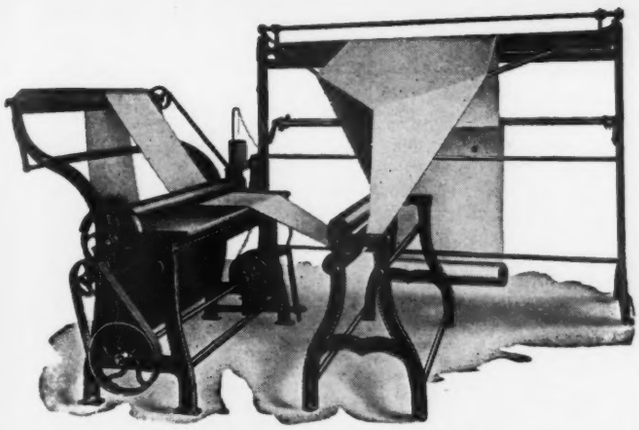
Ed. H. Arnold, assistant treasurer of Berkshire Fine Spinning Associates and superintendent of the Greylock branch, has been appointed manager of the company's Adams Mill, Adams, Mass., to succeed **W. E. Stoddard,** who resigned. **R. A. Hodgman** will take over as superintendent of the Greylock Mill.

***JAMES L. TRUSLOW,** formerly with Whitin Machine Works, has returned from active duty in the Navy to become overseas representative for American Viscose Corp., with ultimate headquarters in London. Mr. Truslow organized Navy purchasing of all clothing and textiles, except aircraft, beginning in May, 1942. In December, 1943, he began a six-month period of service on the staff of Vice Admiral William A. Glassford in Dakar, French West Africa, and followed this with one year as senior supply officer on the U. S. S. Monticello. From July to December, 1945, he was European representative of the textile subcommittee of the Technical Industrial Intelligence Committee, made up of about 45 members who investigated German textiles and textile machinery industries. He was recently awarded the Legion of Merit for his services for the TIIC.*

Edward G. Michaels, Jr., for the last five years connected with American Viscose Corp., Meadville, Pa., as assistant plant manager, has accepted a post with the Marshall Field & Co., Leaksville, N. C., as assistant to the director of industrial and public relations.

H. A. Reinhardt, acting technical director, Bigelow-Sanford Carpet Co., Thompsonville, Conn., has been appointed technical director to succeed **James Neal Dow,** who has resigned to be associate director of the Deering-Milliken Research Trust, Princeton, N. J. Mr. Reinhardt joined Bigelow-Sanford in 1930.

H. M. Brigham is the newly appointed head of the cotton goods department of Glen Raven Cotton Mills, Glen Raven,



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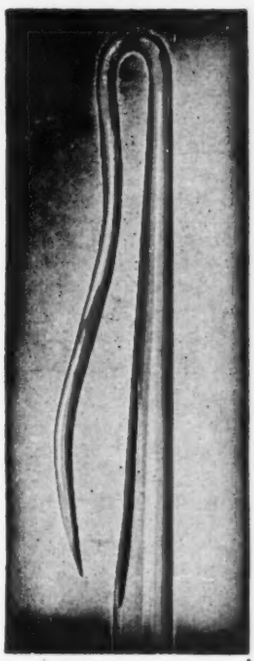
NEEDLES



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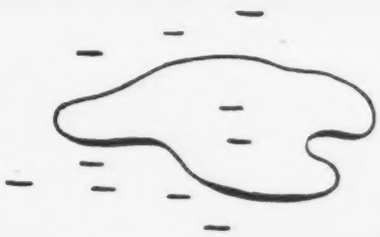

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MACHINES

BRINTON Circular Knitting Machines keep quality high—increase production—lessen shut-downs—and reduce overhead. They keep on performing day after day—with a minimum of attention. That's why you'll find Brinton's in the largest mills, where accurate and scientific records are kept to tabulate the performance of every unit. • We have been making Brinton's for over fifty years, and will be happy to figure with you on your immediate requirements.

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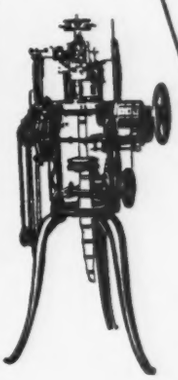

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A new Fastener for A and B V-belts

Size No. A180 for A Belts
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Folder No. V-12 gives complete details on this new Flex V fastener with list prices, special tools and application information. Your request will bring a copy.

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Also sole manufacturers of Alligator Steel Belt Lacing for flat transmission belts. Alligator V-belt Fasteners for V-belts and Flexco HD Belt Fasteners and Rip Plates for fastening and repairing conveyor belts.

NEWS ABOUT MEN

N. C., with sales office in New York. Mr. Brigham has been associated with Wellington Sears & Co. He will be succeeded there by **Jack Ferry.**

G. C. Denebrink, general sales manager of Bigelow-Sanford Carpet Co., Inc., New York, N. Y., and **William N. Freyer,** director of products, have been elected vice-presidents of the company. Both men joined the company last month. Mr. Denebrink had been associated since 1922 with the Armstrong Cork Co., and Mr. Freyer had been with Montgomery Ward & Co. since 1940.

Natt Brown, for many years a textile designer at the Sawyer plant of American Woolen Co., Dover, N. H., recently observed his 90th birthday.

Harold J. Michel, manager of Skenandoa Rayon Corp.'s plant at Utica, N. Y., since 1937, has joined American Viscose Corp., as manufacturing superintendent of the company's viscose rayon plant at Lewistown, Pa. He will be associated in his new position with **William D. Silcox,** who has been manager of the Lewiston plant since 1939.

John W. Brooks, formerly in the sales department of the Nashua Mfg. Co., New York, has rejoined that company to cover Connecticut and Rhode Island. He enlisted in the Army as a private February, 1941, and held the rank of captain when released.

Harry H. Bosworth is resigning from the Quartermaster Corps after five years' civilian service, to join Shepperd Mills, Philadelphia, Pa., where he will have charge of styling and quality control.

Phil Hatch has been appointed assistant manager of the Columbia, Tenn., plant of Tennessee Knitting Mills, Inc.

Frederick S. Whiteside has been named assistant treasurer of Pacific Mills, Boston, Mass. He will continue his present duties as director of purchases.

Guy Critcherson, former controller at the Boston office of Continental Mills, has been shifted to Lewiston, Me., to take charge of that office.

Ernest C. Kontz has become research director of Cabin Crafts, Dolton, Ga.

LEWIS SANDERS, who has been elected president of Textile Research Institute, New York. He held responsible positions in Washington related to industrial matters in the war effort. Previously he had charge of a research group in General Electric Co.

John P. Howland has rejoined Pepperell Mfg. Co., after nearly four years in the Navy, and has been named in charge of converting operations at the Opelika Bleachery, which is now under construction at Opelika, Alabama.

C. C. Marshall, superintendent of Southern Asbestos Co., Charlotte, N. C., a position he has held during the 26 years since the company was organized, has resigned and will retire. He will make his home on his farm at Bedford, Va., where he was born in 1880.

James R. Milliken has been appointed superintendent of Nashua Mills, Nashua, N. H., to succeed **John W. Winterbottom,** who resigned after long service. Mr. Milliken will also continue as superintendent of finishing. Other changes: **Harry A. Caswell,** formerly superintendent at Jackson Mills, is now superintendent of manufacturing processes – opening through weaving–at Nashua Mills; **Harold A. Morris,** formerly overseer at No. 6 mill, becomes superintendent of part wool, rayon, and Purrey yarn preparation and weaving in mills No. 5 and 6; **Winthrop Whipple,** formerly overseer of the main weaving at Nashua Mills, succeeds Mr. Caswell at Jackson Mills.

W. P. Irwin has been appointed superintendent of Chesnee Mills, Greenville, S. C. He succeeds **W. L. Jewell,** formerly superintendent of both Chesnee and Saxon Mills, who will continue at Saxon Mills.

Machine and Hand Knitting

Yarns

[French-Bradford]

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Complete color assortments

American Woolen Company

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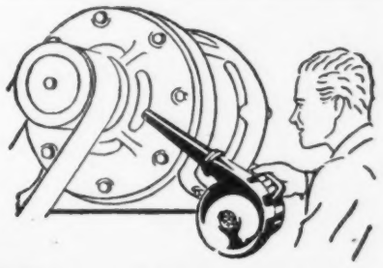
Blow out Dust — Keep Motors and Machinery Clean with



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PREVENT motor burnouts, overheating and shutdowns. Keep motors and machinery clean. Blow out dust, dirt, lint, chips, etc. with the powerful, portable TORNADO Electric Blower. Quickly pays for itself in cutting repair and replacement costs. Write for details and FREE Trial Offer

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For Circular, Full Fashioned, Tricot and Milanese Knitting Frames, also Narrowing, Stand Transfer Points and Welt Hooks for Full Fashioned Machines. Slides Sinkers, Jacks, Guides or Flat Eyes, Sley and Milanese Points, Transfer Points or Quills, etc.

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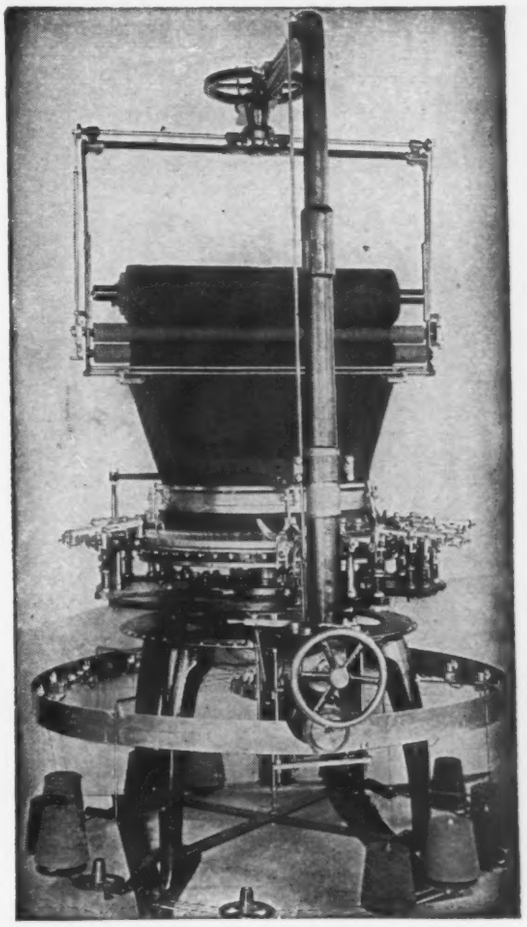

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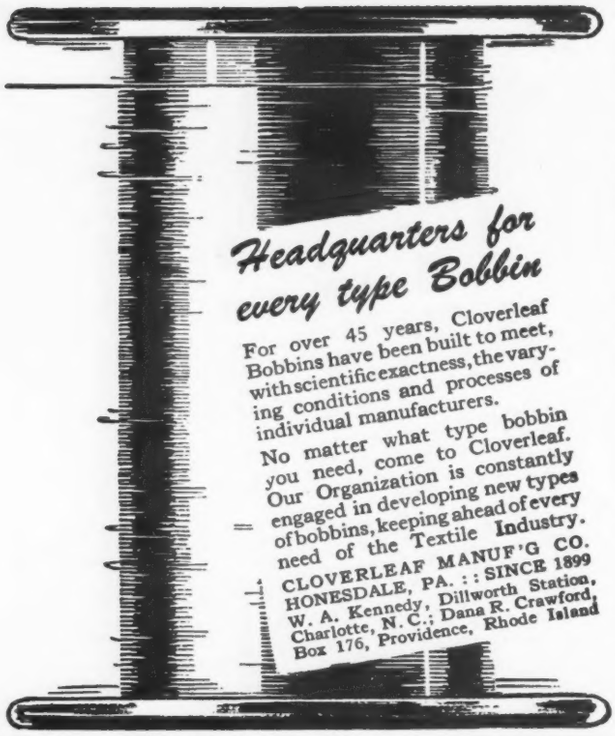
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E. W. PIKE COMPANY
Elizabeth 3, New Jersey

NEWS ABOUT MEN

Wm. Norwood, formerly superintendent of manufacturing at Continental Mills, Lewiston, Me., has been named general superintendent.

O. L. Ferguson has been appointed superintendent of Pendleton Mfg. Co., La France, S. C., succeeding **Carl Esperg,** who resigned.

C. N. Wallace, Jr., resigned as assistant superintendent of the Monaghan plant of Victor-Monaghan Co., Greenville, S. C., and has become superintendent of Watts Mills, Laurens, S. C.

R. M. Cushman has become superintendent of Pomona Mfg. Co., Greensboro, N. C. He was formerly superintendent of Watts Mills, Laurens, S. C.

G. P. De Brule is now manager of Spinners, Inc., Lowell, N. C., succeeding **J. Lander Gray, Jr.** He was formerly superintendent of St. Paul's Rayon Mills, St. Pauls, N. C.

N. Winroth has been appointed superintendent of the Buffalo, S. C., unit of Union-Buffalo Mills.

W. S. Moore has been appointed general superintendent of Barbet Mill, Lexington, N. C.

Frederick Thomas has been named resident manager of Bradford Mills, Louisville, Ky., of American Woolen Co.

J. E. Pruett, former assistant superintendent of Newton Rayon Mill, Newton, S. C., has gone to one of the units of Burlington Mills in Cuba.

W. V. Byers, formerly assistant manager of plants 1, 4 and 6 of Erwin Cotton Mills Co., Durham, N. C., has become manager, succeeding **P. B. Parks** who retired Feb. 1.

M. T. McDearmid, formerly assistant superintendent of Stonewall Cotton Mills, Stonewall, Miss., is now superintendent of Douglas Mills, Inc., Douglasville, Ga.

Paul V. Martin has become overseer of weaving at Cutter Mfg. Co., Hill, S. C. He was formerly night foreman of weaving at the Eureka plant of Springs Cotton Mills, Chester, S. C., where he has been succeeded by **Bill Bigham.**

James A. Ferguson, recently out of the Army, is now assistant to the manager of units 1 and 2 of Springs Cotton Mills, Fort Mill, S. C.

Paul Whitin, 5th, was appointed superintendent of Goodall-Sanford, Inc., Sanford, Me. He was formerly with Paul Whitin Mfg. Co., Northbridge, Mass.

Walter C. Jacobs has become head of the synthetic fibers departments of the mills owned by Lester Martin, Inc. His work will be primarily in the development of spun nylon, spun rayon and other synthetic fibers which can be adapted to cotton and wool machinery.

Carlton Schulze, formerly superintendent at the Ayer Mill of the American Woolen Co., Lawrence, Mass., is now superintendent of the Bradford Yarn Division of American Woolen Co.'s Wood Mills. He takes the place of **George Gahm,** now assistant manager of the Wood plant.

Carl C. Dudley has been appointed manager of Providence Braid Co., Pawtucket, R. I. He was formerly with Crown Mfg. Co.

Henry Flynn is now superintendent and manager of Magnolia Cotton Mill Co., Magnolia, Ark., succeeding **J. R. Wikle.**

O. S. Shelton, formerly in the textile supply and overhauling business in Columbus, Ga., has become superintendent of spinning, twisting, winding, and warping at Itasca Cotton Mfg. Co., Itasca, Tex.

Emile J. Farland, who has been overseer of weaving in the Jackson main mill, has become overseer of weaving in the Nashua main mill of Nashua Mfg. Co., Nashua, N. H. **Edward R. Benoit,** who has been assistant overseer in the Nashua main weave room has become overseer of Jackson main weaving. **Joseph A. Hebert,** who has been second hand in the Nashua trimming department, has become overseer of that same department. **Anthony Stawasz,** who has been second hand in Nashua No. 6 mill, has become overseer of that same department.

Lawrence Buker is now boss carder at the Stanrich Woolen mill, Worcester, Mass.

Wm. D. Metts, recently out of the Army, has been named

Speed Production

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ANSUL *Portable* SO_2 ANTI-CHLOR SYSTEM

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night overseer at Mills mill, plant No. 2, Woodruff, Ga.

C. C. Whitt, formerly second hand of carding at Proximity Mfg. Co.'s White Oak plant, Greensboro, N. C., is now superintendent of that department. He succeeds **W. L. Gibson,** retired.

S. C. Smart, formerly head of carding and spinning at Grace Cotton Mills Co., Rutherfordton, N. C., is now assistant superintendent of Stowe Mills, Inc., McAldenville, N. C.

Paul J. Bell has become superintendent of the mechanical department of Laurens Cotton Mills, Laurens, S. C. He was formerly head of the mechanical department at the Cordova, Ala., unit of Nashua Mfg. Co.

Dan F. Poole, Jr., has been appointed general superintendent of weaving at Hannah-Pickett Mills, Rockingham, N. C.

J. R. Kilpatrick has resigned as superintendent of spinning at Chesnee, S. C., division of Saxon Mills and now is head of spinning at the Lockhart, S. C., plant of Monarch Mills.

K. B. Brigman, recently out of the Army, has become overseer of spinning at the Eureka plant of Springs Cotton Mills, Chester, S. C.

Arthur Eichler has returned from service with Army Quartermaster Corps in China to his former position as production manager, Desley Fabrics Division, J. H. Thorp & Co., New York.

W. F. Patrick, superintendent of Arrow Throwing Corp., Hawley, Pa., has resigned. He was formerly with John C. Welwood and Belding-Heminway.

Oscar H. Wurster, 64, died recently in Chicago. He was president of Wurster & Sanger, Inc. chemical engineers.

Obituary

Leavelle McCampbell, 66, head of McCampbell & Co., New York, since its inception in 1923 and one of the merchants whose character has left a lasting impression in New York's Worth Street district, died Feb. 14. After an apprenticeship in wholesale circles, he formed the Hughes-McCampbell Dept. of Converse & Co. in 1914. Later with Converse & Co., he became vice-president of Consolidated Textile Corp. and of B. B. & R. Knight. He is a former president of the Association of Cotton Textile Merchants of New York and chairman of the committee which was responsible for the Uniform Salesnote Clauses in 1932, and again in 1940 relating to the Standard Cotton Textile Salesnote which is a part of the "Worth Street Rules."

Albert L. Scott, 67, president of Lockwood Greene Engineers, Inc., New York, widely known in the textile and general industrial fields for his engineering work, died Mar. 2 at Chappaqua, N. Y. He joined Lockwood Greene in 1900, holding various executive positions until he became president in 1926.

Robert Rice Jenks, 57, died Feb. 11, in Pawtucket, R. I. At one time he was president of Pilgrim Mills, Fall River, Mass., and of Kilburn Mills, New Bedford, Mass. He was a director of the Queen City Cotton Mills, Burlington, Vt., the U. S. Bobbin & Shuttle Co., Lawrence, Mass., and Whitinsville Spinning Ring Co., and also a member of the executive committee and a director of the former Manville Jenckes Corp.

Harold Hoebler, 55, president of Textile Research Co., died at South Dartmouth, Mass., Jan. 28. He spent the last eight years developing high-speed weaving. Mr. Hoebler was also associated with Hoosac Mills Corp., and was a former vice-president of Taunton-New Bedford Division of Revere Copper & Brass, Inc. At one time, he was with Saco-Lowell Shops.

Edgar Benjamin Moore, 78, founder and former president of Penn Worsted Co., Philadelphia, Pa., died Jan. 27.

Robert Fulton Craig, 68, of Lincolnton, N. C., president of Lola Mills, Stanley, N. C., and of the Gaston County Dyeing Machine Co., died in Charlotte, N. C., Feb. 8. For 25 years he was with the Hutchinson Mills.

David Dwares, 45, of Providence, R. I., prominent industrialist and manufacturing real-estate operator, died Feb. 13 in

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NEWS ABOUT MEN

New York while returning from Florida. Several months ago Mr. Dwares purchased control of the Dempsey Bleachery & Dye Works in Pawtucket, which was one of three producing industrial properties he headed. The others are Slater Dye Works, in Pawtucket, and Damar Wool Combing Co., in Providence.

Jacob May, president of the May Hosiery Mills, Nashville, Tenn., died recently in Nashville, of a heart ailment.

Solon D. Bausher, 76, former president of National Association of Hosiery Manufacturers and treasurer of Infants Socks, Inc., Reading, Pa., died recently. He was president of the Glorie Mill, treasurer of Acorn Hosiery Mill, president of S. D. Bausher & Son, Hamburg, Pa., president of the Unrivalled Hosiery Mill, Williamstown, Pa., president of the Bestok Underwear Mill, Tower City, Pa., president of the Manheim Underwear Mill, Manheim, Pa.

Charles P. Logan, retired textile manufacturer and former president of J. P. Logan Co., died Jan. 31 at Greenwich, Conn. He was born in Norwich 72 years ago.

L. B. Mann, 85, president of Newnan Hosiery Mill, Newnan, Ga., died recently.

George F. Haigh, 70, superintendent of George Mabbett & Sons Co., Plymouth, Mass., died in New York recently. He was a member of the National Association of Woolen & Worsted Overseers.

Luigi Pavia, proprietor of Pavia Shuttle Co. for the last 40 years, died at the age of 62, in Allentown, Pa., recently.

Frank W. Hall, associated with the Boston office of Boott Mills, died in Fitchburg, Mass., recently.

Clarence R. Budlong, 71, for nearly 25 years associated with Union Wadding Co., Pawtucket, R. I., died Jan. 25 in Providence, R. I.

William A. Heartt, Hillsboro, N. C., until his recent retirement attached to the Technical Service Section of the Rayon Division of E. I. du Pont de Nemours & Co., died Feb. 8. He has been credited with important developments in adaptation of cotton weaving equipment to handling rayon. He had also been with Eno Cotton Mills, Hillsboro, N. C.

John Flanagan, 89, retired merchant and manufacturer died Feb. 1, at Riverpoint, R. I. He at one time operated a mill at Washington, R. I., under the name of Washington Mfg. Co.

John Noble Wyllie, 90, a director of Riverside & Dan River Cotton Mills, Danville, Va., for many years, died recently at the home of his daughter in Norfolk, Va.

George J. Eckert, 55, founder of the Geo. J. Eckert Cotton Co., Memphis, Tenn., died Feb. 15. He was president of Memphis Cotton Exchange in 1936.

Alfred Hargrave Robbins, 71, retired textile mill executive, died Feb. 3. Until his retirement several years ago, he was general manager of the Eureka, Gayle, and Springstein units of the Springs Cotton Mills at Chester, S. C.

Benjamin Knopow, 52, owner of Southern Textile Co., Providence, R. I., died recently in Providence, R. I.

Ardrey W. Barringer, 33, vice-president and treasurer of Turner Mfg. Co., Statesville, N. C., died recently.

Edward F. Snyder, 49, died recently in New York. He had been associated with Nashua Mfg. Co. for the last 20 years.

Albert I. Fielding, 75, overseer in the drawing room of Shawsheen Mills, died recently in Lawrence, Mass.

James E. Stone, 41, for the last five years superintendent of Aragon-Baldwin Cotton Mills, Rock Hill, S. C., died at Inman, S. C.

W. W. Tripp, 51, night superintendent of the Roxboro Cotton Mill, Roxboro, N. C., died Feb. 15.

By error, the name of Frank G. W. McKittrick was substituted for the name of George R. Giffin in a paragraph on this page in the February issue. We are glad to report that Mr. McKittrick of Frank G. W. McKittrick Co., of Lowell, Mass., is enjoying his usual good health. Mr. Giffin, who at the time of his death was superintendent of Lowell Woolen Mills, Lowell, Mass., had been for many years prior to 1941 woolen machinery salesman for Mr. McKittrick's company and was still retained in an advisory capacity.—Editor.

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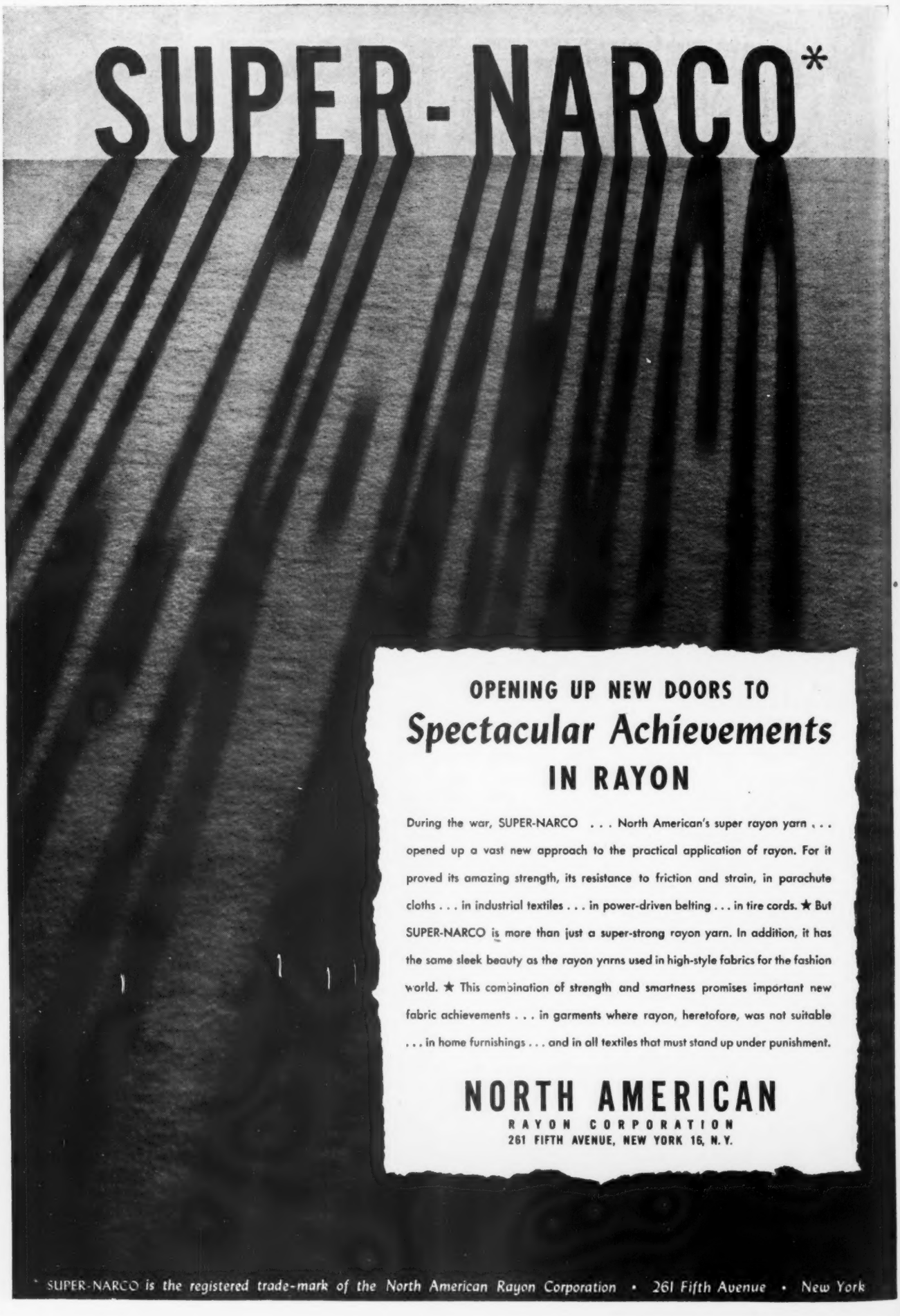
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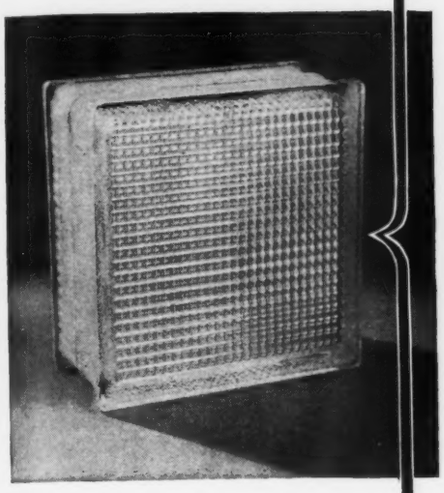

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WANTED WEAVE Room overseer for mill near Montreal. Experience with cotton and rayon tire cord fabrics and heavy ducks, preferable. Reply stating qualifications and salary expected. P-589, Textile World, 330 W. 42nd St., New York 18, N. Y.

TWISTING OVERSEER: experience in rayon cotton tire cords preferred. Reply, stating qualifications and salary expected to P-590, Textile World, 330 W. 42nd St., New York 18, N. Y.

SPINNING OVERSEER: for modern cotton mill, vicinity Montreal. Reply, stating qualifications and salary expected to P-591, Textile World, 330 W. 42nd St., New York 18, N. Y.

FIRST CLASS designer wanted for a New England woolen mill manufacturing fine, fancy and plain woolen and worsted fabrics. Must have experience in this field, possessing knowledge of blending, finishing and general knowledge. P-592, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANTED: WEAVE room foreman in Velvet manufacturing plant in the South. Permanent position and excellent opportunity for advancement. P-593, Textile World, 330 W. 42nd St., New York 18, N. Y.
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WANTED: SALESMAN living in Georgia, Alabama or Tennessee to cover the textile weaving mills in those states selling supply items for a concern with plants in New England and North Carolina, established over 75 years. We want a serious, hard-working man, preferably with previous experience and with acquaintances in the mill field. Must have car. Remuneration for services will be equitable and consistent with past experience and results. Please write all necessary information in first letter. SW-594, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANTED: TEXTILE Engineer to represent National Cotton Council in contacts with research laboratories and industrial consumers of cotton. Good scholastic record, successful practical experience and aptitude for personal interviews are essential qualifications. Position should appeal to man with broad appreciation of cotton problems and interest in maintaining wide contacts throughout industry. Location Memphis, Tennessee. Application should include full statement of education and experience, evidence of special aptitudes, age, expected salary, recent photograph desired. Write to National Cotton Council of America, 1416 E Street, N.W., Washington 4, D. C.

POSITIONS WANTED

WEAVING EXECUTIVE: Experienced on plain and fancy yarn, piece dyed goods, in silk, rayon, nylon, cotton, mohair and blended yarns on broad goods and pile fabrics, expert knowledge of automatic looms, wants steady position with reliable firm. PW-529, Textile World, 330 W. 42nd St., New York 18, N. Y.

RAYON AND Synthetic yarn Throwster desires position in plant where conditions are unfavorable, have had ten years practical experience also technical training. Desires to put plant on paying basis, training help within industry. PW-552, Textile World, 330 W. 42nd St., New York 18, N. Y.

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Immediately available. Six years complete experience. Nylon specialist. Also experience in production control, scheduling, process development and complete supervision. Best of references. Address
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330 West 42nd St., New York 18, N. Y.

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Young man, veteran, active, progressive, 7 yrs. woolen and worsted experience, including fabric development, styling, designing, costing, production management, mill and N. Y. sales experience, references, textile college education, free travel.
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CHIEF INDUSTRIAL ENGINEER
Woolen or textile experience preferred. Salary—$7,500 to $8,500. Location —New England.
P-574, Textile World
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Boss carder-boss spinner and 2nd hands for 2nd and 3rd shifts. In 3 sets woolen spinning mill.
Apply
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POSITIONS WANTED

SUPERINTENDENT OF yarn mill at present employed desires to make a change. 25 years experience producing carded combed and blended yarns for hosiery and weaving trade. PW-555, Textile World, 330 W. 42nd St., New York 18, N. Y.

TEXTILE ENGINEER: Young. Graduate Lowell Textile Institute. Ex-Marine officer. Five years experience. Excellent personality. Seeks position in production department of tetile mill offering chance for advancement. Will locate anywhere. Best references. PW-595, Textile World, 330 W. 42nd St., New York 18, N. Y.

BOSS KNITTER or overseer on Scott-Williams or Wildman Latch needles machining. PW-596, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

THROWSTER AVAILABLE: familiar with human relations, have a splendid help record, a good waste record, quality conscious, and a good production record without losing sight of cleanliness, and safety. PW-597, Textile World, 330 W. 42nd St., New York 18, N. Y.

THROWING SUPERINTENDENT: of medium size plant or assistant superintendent in a large throwing plant desires a change in locality. PW-598, Textile World, 330 W. 42nd St., New York 18, N. Y.

WANTED POSITION as designer or ass't. superintendent by capable young man. Veteran, textile college training, several years experience including all dep'ts woolen worsted mills. References, travel. PW-599, Textile World, 330 W. 42nd St., New York 18, N. Y.

TEXTILE ENGINEER: desires position with sales organization or converter as salesman or technician. Graduate of Lowell Textile Institute. Versed in complete mfg. processes of cotton, wool and rayon; finishing, design, testing, weaving, knitting. Five years exp. as cloth analyist for sales organization. PW-600, Textile World, 330 W. 42nd St., New York 18, N. Y.

VETERAN RECENTLY discharged would like to return to South America in executive capacity. Capable of management of carpet rug plush manufacturing has 19 years experience. Speaks Spanish. PW-601, Textile World, 330 W. 42nd St., New York 18, N. Y.

KNITTING SUPT. or experimental man, prefer mill with room for new developments, experienced on underwear, sweaters, bathing suits, also rubber knitting, stockings, girdles and etc. Am now employed. Can furnish best of references. PW-603, Textile World, 520 N. Michigan Ave., Chicago 11, Ill.

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(Continued on the opposite page)

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(Continued from opposite page)

SELLING OPPORTUNITIES WANTED

LINE WANTED. Highly capable salesman would like line for Southern territory. Especially such items that would be of interest to hosiery and underwear mills. SA-558, Textile World, 330 W. 42nd St., New York 18, N. Y.

REPRESENTATION SOUGHT: Important European concern seeks agency or exclusive representation in textiles, machinery, clothing. Terms: direct purchase, commission basis, etc. Excellent bank references. RA-604, Textile World, 330 W. 42nd St., New York 18, N. Y.

ENGINEERING FIRM: Large office well-located downtown Manhattan wishes to represent reputable manufacturer of machinery. Installation, maintenance and field engineering service. Design & Management Corporation, 82 Beaver Street, New York 5. HAnover 2-3807.

WANTED

To act as Austrian representative of progressive and forward looking American spinning mill or dye company.
Am textile engineer with best connections all leading manufacturers. Address:

WILHELM NEUMANN v. SPALLART
Text. Ing.
Wien VIII. **Langegasse 74.**

AUTOMOTIVE REPRESENTATION

Representation available to quality producer of suitable materials. I can place your business in substantial position in automotive field. Your inquiry invited.

RA-605, Textile World
520 North Michigan Ave., Chicago 11, Ill.

ARGENTINA

Merchant in Argentina, well established in textile line with excellent commercial and banking references such Argentine representations of textile machines, for spinning mills of dressed (combed) wool, for spinning mills of carded wool and cotton, for knitting mills, for dye plants, also all kinds of spare parts for same and needles for knitting machines. Also interested in obtaining representation and exclusive distribution of combed mercerized and "gassed" cotton yarn, rayon and nylon yarn—Send bids and catalogs to:

CHASKIEL SZAPIRO
Buenos Aires **Corrientes 5576**

Export to Switzerland

Swiss textile manufacturing firm in St. Gall wishes to represent leading American firms in the following lines: raw textiles, fabrics, neckwear and accessories, and fancy goods.
Efficient sales and clerical staff and modern office and warehouse facilities at disposal. Departments consist of Textile and Handkerchief factory and Import-Export Agency.

Reply to
HANS HUBSCHER, St. Gall.
Cable address: Hutex, St. Gall, Switzerland

EXPORT TO IRELAND

A very important permanent market for absolutely every type of textile and ladies hosiery exists in the export trade to Ireland. Terms cash in U. S. A. dollars immediately goods shipped or railed to port. Get your share by sending samples and prices to

VICTOR ENOCH
Granby Place, Dublin, Ireland

JUAN JOSE GARCIA ALLONGO

P. O. Box 1194
Trujillo City, Dominican Republic

Wishes to obtain the representation on a commission basis of several American manufacturers, for the Dominican territory. Especially interested in cloth and general textiles.

EXPORT TO SWEDEN

Representative Swedes with home and foreign commercial experience, good linquists, high credentials, specialized in Textile Trade, several years experience as salesmen, wish to represent reliable manufacturers of *Textile Machinery, Accessories, Chemicals, Yarns and Synthetic fibres.*

Having personal friends among prominent Swedish buyers and well introduced to Swedish mills, good results are guaranteed to competitive firms wanting to be effectively represented in Sweden. Swedish Agency firm to be established and interested could be visited later on. Reply to

"NORTHERN TRADE 1946,"
Care of
GUMAELIUS ADVERTISING AGENCY, STOCKHOLM, SWEDEN

BE PREPARED
for

NEW EXPORT SALES

Wanted Textile Agencies

Well connected and old established Manufacturers Agents having unrivalled connections with wholesale warehouses in Great Britain are prepared to accept representation of first class Manufacturers of Men's, Women's and Children Hosiery underwear and General Textiles.

C. CLUTTEN & SON
Textile Exchange Buildings
St. Paul's Churchyard, London, E. C. 4

REPRESENTATION IN FRANCE

Business man well known in textile field would represent American firms seeking important dealings in raw and manufactured goods. Address Godefroy Le Gros, 16, rue Theophraste Renaudot, Paris 15. Tel. PRO 73-80. References: Brown Bros. Harriman & Co., 59 Wall St., New York, John Curtiss, 250 Park Avenue, New York.

DYE HOUSE

WANTED

TO PURCHASE, RENT OR LEASE OR PARTNERSHIP OR COMMISSION

Dyeing or Bleaching of Cotton Knit Piece Goods, Capacity 75,000 to 100,000 lbs. weekly

BO-587, Textile World, 330 West 42nd St., New York 18, N. Y.

FOREIGN MILL OWNERS

In buying Used American Made Textile Machinery, you need protection and advice that you can depend on. We are thoroughly experienced practical textile mill men that know our business.

We are not Machinery Dealers. Through our many sources, we will obtain for you the exact equipment to meet your requirements.

We do not deal direct, but through reputable Exporters. We can supply you with the names of these Exporters, with top Dun & Bradstreet Ratings, and you can be assured that they will protect your interests in every way.

LAWRENCE H. KELLY
Textile Machinery Consultants
P. O. Box 2442
Paterson, New Jersey, U. S. A.

Can you spin for us?

We need 4/14s—2/15s—2/20s
Worsted Yarns on the Bradford System.

CW-520, Textile World
330 West 42nd St., New York 18, N. Y.

FOR SALE

Wildman Knitting Machines

all guages including 28 cut.

FS-569, Textile World
330 West 42nd St., New York 18, N. Y.

MORE PROFITS

FOR YOUR COMPANY LESS WORRY AND EXPENSE

FOR YOU

TO sell your business for cash to a reputable and experienced operating concern with substantial capital may be the best thing for both the company and you.

WE are principals (not brokers) with a record of successful operating experience. Present company personnel retained wherever possible.

• *ALL discussions and negotiations strictly confidential*

Box 1222, 1474 Broadway, N. Y.

WANTED

WANT TO BUY

TEXTILE ROLLER PRINTING PLANT

Having 3 to 10 machines, also dyeing and finishing equipment capable of producing up to 2,000 pieces per day of rayon, cotton and mixtures.

This is the principal advertising. Replies held STRICTLY CONFIDENTIAL.

W-585, Textile World, 330 West 42nd St., New York 18, N .Y.

Memo: **To: Executives of Dyeing, Finishing and Bleaching Plants**

As the country's largest dealers catering exclusively to the dyeing and finishing industry—we are in a unique position to offer highest possible prices on single items or complete units which you may have for sale.

A note to us, at the address below, or a phone call, will bring an authorized representative to your plant promptly.

ADVANCE MACHINERY CO., INC.

Textile Dyeing, Finishing and Printing Machinery

179-197 EAST 7TH STREET PATERSON 4, N. J.

Telephone ARmory 4-7068, 4-7069

WANTED

SPINNING MILL

or contractor spinner-Bradford or French system producing 5000 lbs. a week. Will buy part interest, or outright.

W-570, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

COTTON YARNS

12/1 to 40/1 carded, combed and mercerized yarns wanted. Naturals and colors—all quantities.

W-572, Textile World
330 West 42nd St., New York 18, N. Y.

DYESTUFFS

Will buy your surplus and obsolete dyes and chemicals for cash.

NEW ENGLAND PRODUCTS CO.
91 Oliver St. Boston, Mass.

WANTED

Surplus

Chemicals, Dyes, Gums, Oils, Waxes, Greases, Pigments, Residues, By-Products, Wastes

W-270, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

60" Woolen Carding Machine Mules

Fearnough Pickers

82" to 92" C. & K. 4 x 4 box Woolen Looms 25 Hav.

HENRY GREENBERG

116 Broad Street, New York 4, N. Y. Tel.: Whitehall 3-7992-4

YARNS WANTED

Wanted to purchase surplus yarns of all types — cotton, rayon, acetate, nylon, silk, wool, spuns, and blends.

W-474, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED

5000 lbs. weekly 2/20's

WORSTED YARNS

Can also use 1/15's.

Well rated knitting mill.

W-571, Textile World
330 West 42nd St., New York 18, N. Y.

Additional Wanted Advertisements On Page 298

ARKWRIGHT...

he revolutionized the textile industry

NOT until the perfection of the Spinning Frame by Richard Arkwright, in 1769, could warp-threads of cotton be made strong enough to meet necessary requirements. Arkwright got the idea for roller spinning from seeing a bar of red-hot iron elongated between rollers. In 1779 workers of Lancashire smashed spinning machines as a threat to their livelihood. The Arkwright machines eventually so improved the textile industry that the man who once was a barber in a cellar, and "shaved for a half-penny", was knighted by the King, and died worth $2,000,000!

Illustration from the Bettman Archive

SERVING THE TEXTILE INDUSTRY

1—80" Batcher
1—114" Simpson Batcher
2—#00 Sturtevant Blowers, paddle type, belt driven
1—66½" C&M Brushing Machine
3—2—46", 1—50" Button Breakers
1—48" Breast Card, with Cyl. 6 rolls
1—66" Hartmann Card, 2 Cyl. iron card set with tape condenser and feeder, no clothing
1—42" Granger Calender, 3 roll, friction or rolling, motor driven
8—Whitin Model C Combers
1—Whitin Model C Ribbon Lapper
1—Whitin Model C Sliver Lapper
1—Whitin Ribbon Lapper
1—Whitin Sliver Lapper
1—64" Voelker Dewing Machine
ing Doublers
ing Doublers
1—56" P&W rebuilt Doubling and Winding Machine with 100 yd. counter, motor driven
1—1 set 20 H.W. Butterworth dry cans, Dryer, motor driven, with Reeves drive
1—72" Schofield automatic Duster, no apron, no fan
1—26" Tolhurst Extractor, belt driven, overhauled
1—30" American Laundry Extractor, copper tinned basket, belt driven, under drive
1—5 can Van Vlaanderen narrow fabric Finishing Machine with Taylor instruments
9—40", 42", 46", 48" E&H and C&M Folding Machines with take-up stand, chain drive, no motor
1—100" C&M flat fold Folding Machine, 1 HP GE Ind. motor
6—Hunter and Schiffer 2 string Fulling Mills
1—48"x21" Smith & Furbush Garnett with feed apron
1—49"x20" James Smith Garnett
15—10", 48", 60", 73", 90" Card and Napper Grinders, with and without floor stands
2—Peerless Belt Lacing Machines
1—Card Lacing Singer Machine ½ HP GE Ind. Motor
2—15⅛" C&K 4x1 Looms, 25 harness with 1 HP D.C. motors
1—48" C&K 4x4 box Loom
10—82" C&K 4x4 box Looms, 25 harness, belt driven
24—82" C&K 4x4 box Looms, 12 for 25 harness, 12 for 30 harness, motor driven
4—82" McCloskey 4x4 Looms, suitable for 25 harness, belt driven
12—82" John J. McCloskey indestructible Automatic Looms, 2x4 box, 25 harness, electric warp stop motions, motor driven
10—92" C&K 4x1 automatic Looms, 8 harness cam motions, motor driven
8—96" Knowles 4x4 box Looms, 25 harness, intermediate head, belt driven, T&L pulley and F C drives
2—108" C&K 4x4 box Looms with 25 harness head, belt driven
6—76" Draper Modified D automatic Looms, with lacey tops, belt driven, equipped with midget feelers, friction let-off, warp stop motions and 1⅛ beams per loom
2—Starch Mangles
1—42" C&M Measuring Machine, 60 yd. dial, belt drive
1—46" Measuring, Winding and Tubing with yardage indicator
1—54" P&W Measuring and Winding with 100 yd. clock with motor
1—64" P&W Measuring and Woolen Cloth Winder
1—66" P&W Measuring and Winding with clock, belt drive
1—66" x 24" P&W 60 yd. Measuring Machine, sanded roll, belt drive
1—80" D&F 20 roll Single Acting Napper, belt drive
1—80" D&F 20 roll Double Acting Napper, with folder, belt driven
1—20" Butterworth Rag Picker
1—40" Parkhurst Burr Picker
8—65½", 66", 84", 98" Voelker and Gessner, single and double bed rotary cloth Presses
1—86"x42½" Cleveland Reel Warp
1—60" C&M single Blade Shear, plush, arranged for motor drive, no motor
1—66" C&M 2 blade Shear, belt driven
12—66" P&W 2 blade Shears, belt driven, Model B
2—66" P&W 21 blade Shears, Model A, belt driven
2—66" P&W file cut single Shear
2—66½" P&W single Blade Shears, belt driven
1—72" Monteforte 2 blade Shear
1—106" Schulze Double Shear
1—42" C&M Singer with hood
2—204 spindle Lowell Spinners, 2¼" R, 3" Ga., band driven, warp wind
5—256 spindle Whiten Spinners, 2" R, 2¾" Ga., belt driven
1—32" D&F Jack Spooler
1—100 spindle Draper Spooler with Foster Tension, McCall guide
1—42" D&F Fearnaught mixer picker, belt driven
1—28" wide x 12" diameter set of Iron Squeeze rolls
2—180 spindle Fales & Jenks Twisters, tape drive, 2" ring, 3" gauge
1—60" C&M Single Brush Tiger, arranged for motor drive, no motor
4—100 spindle Saco-Lowell and Lowell Trap Twisters, 3½" ring, 5" gauge, arranged for chain motor drive, no motor
1—200 spindle Lowell Trap Twister, 3½" ring, 5" gauge, arranged for chain motor drive, no motor
1—300 spindle Draper Twister, tape drive, 2¼" ring, 3½" gauge
1—Washing Tub Agitator with motor
2—54" Entwistle Warpers
7—82", 87", 92" D&F Warpers with creed, beamer, reed stand
1—46" Winding, Boarding and Tubing Machine
2—58" P&W Winders, Edge, Stenciling and Winding
2—Sargent Yarn Conditioning Machines
1—Reduction Gear
1—#15533 Reeves Drive, Size 6, Class G, Range 3 to 1

Quantity of Mule Bobbins and Various Size Twister Bobbins and Wooden Spools

MACHINERY LIQUIDATING COMPANY

OPA REGISTRATION NUMBER 789

EST. 1923

31-33 West 42nd Street NEW YORK 18, N. Y.

DOMESTIC TELEPHONE PEnnsylvania 6-8014 EXPORT

SPECIALISTS IN SELLING AND PURCHASING TEXTILE MACHINERY, ACCESSORIES AND MILL SUPPLIES

SURPLUS MACHINERY LIST

ITEM 10998-B & 10999-B

2 WHITIN QUILLING MACHINES

304 Spindle—3½" Gauge Flat Belt Drive from Motor Mounted on Machine Frame

ITEM 9838

1—48 END SINGLE DRUM JACK SPOOLER

Or Compressor made by Worcester Warp Compressing Machine Co. 48" wide with Jack Spool Stand, 5 digit Veeder Root yardage counter new lot of Jack Spools with 12" Heads

ITEM 10188

25000—9 x 4½

COTTON SLUBBER BOBBINS

ITEM 10189

75000—7 x 3½

COTTON SPEEDER BOBBINS

ITEM 10190 R

1—3 CYLINDER C. & A. TIGER

All belt drive from 5 H.P. motor, 66" wide

ITEM 5594

1—4 CYLINDER P. & W. TIGER

66" Wide, each cylinder arranged for individual motor drive

ITEM L.H.789

VOELKER STEAM PRESS

66" Wide

ITEM 6781

GESSNER STEAM PRESS

Jumbo Type, 66" wide

ITEM NEG

PAPER TUBES FOR CLOTH

900 tubes 37½"—1⅝" I.D.—2" O.D.
500 tubes 45"—1⅜" I.D.—2" O.D.
550 tubes 39"—2½" I.D.—3½" O.D.
3,500 tubes 36"—1½" I.D.—2¼" O.D.

Collins & Aikman Corp.
SALES & SALVAGE DIVISION
Located at Our Plant "L"
6th & Upland Aves.
Upland, Delaware Co., Pa.
Phone—Chester 4167

TEXTILE AUXILIARIES

FOR IMMEDIATE DELIVERY FROM OUR OWN STOCK

2—100 HP Motors 400 & 440 V. 2 Phase 600 RPM.
1—75 HP 440 Volts 2 Phase—650 RPM.
1—50" Sprinkler
1—66" Brusher 3 Tampico Brushes—5 Wire
1—40" Tuber
6—50" Jigs Wood Tubs—Lined
2—50" Jigs All Stainless Steel
1—50" Gessner Apron Press
1—54" Embossing Calender (Hydraulic)
2—44" Shreiner Calenders (Hydraulic)
2—36" Hydro-Extractors
1—Prosp. Steam Press
1—66" SANDING & BRUSHING MACHINE
1—3 roll Color Mill
1—16 can set 50" Butterworth steel tinned. Reconditioned, new gears
1—250 HP Harris-Corliss Steam Engine & Belt
1—48" Tuber
1—43' E&H. Folder
1—66" Double Cylinder Woonsocket Napper 20 rolls each
4—60" Jiggs Copper Lined Van V2.
2—50" 5-Bowl Calenders
1—28" Drill Press

TEL. DEXTER 9650 **15 ORMSBEE AVE.**

PROVIDENCE, R. I.

A NEW SERVICE

Oil soaked and rough Roving Bobbins are no longer a problem. Oil extracted and a new finish inside and out, keep them in production. Tried, tested and proven by Progressive Mills.

Contact us for Samples and full details.

BOBBINS—SKEWERS—SPOOLS

We offer you the largest and most complete stock of used Bobbins, Spools and Skewers that is available. Let us repair, refinish or reenamel your bobbins like new. To eliminate delay, please send us your sample, we will reply promptly.

Direct Factory Agents Walter L. Parker Bobbin & Spool Co.

BAY STATE TEXTILE CO.
220 HARTWELL STREET • FALL RIVER, MASS.

LOUIS J. WELSH, Pres. & Treas. — ROBERT H. WELSH, V. Pres. & Gen. Mgr.

JOHN J. McCLOSKEY, Inc.

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TEXTILE MACHINERY OF ALL TYPES

APPRAISALS WOOLEN—WORSTED—COTTON LIQUIDATIONS

NEW AND USED

Office Factory Warehouse: Collingswood, N. J.

GAINES TEXTILE MACHINERY CO.

Dealers in Rebuit and Guaranteed
Yarn Winding and Spinning Machinery

141-45 West 17th Street — New York 11, N. Y.

HARRY STEPHENSON

IMPORTER, DEALER AND MANUFACTURER

TEXTILE MACHINERY AND APPLIANCES

New and Used

River Works, Andover, Mass.

FOR SALE

1—Fletcher 42" Copper Basket, Vertical Motor Driven (2 phase), Extractor.

1—American Laundry 40" Galvanized Basket, Vertical Motor Driven (2 phase), Extractor.

41—Nye & Tredick Circular Knitting Machines, 11" to 20" diameters, 8 feed, 8 to 11 cut.

4—Stafford & Holt Circular Knitting Machines, 18" diameter, 8 feed, 8 cut.

67—Extra Cylinders & Dials.

Also, Stop Motions and Cotton Stands.

GIRARD MACHINERY & EQUIPMENT CO.

949 N. 9th St. — Phila. 23, Pa.
Lom. 6744

KNITTING MACHINES

Scott & Williams — Banner — Wildman — Reading — Kalio — etc., etc.

All types of hosiery mill equipment on hand

THE MORRIS SPEIZMAN CO.
508-14 West Fifth St. — Charlotte, N. C.

HOSIERY MACHINES

KNITTERS - RIBBERS - LOOPERS
CYLINDERS - DIALS - TRANSFERS
RIBBER CYLINDERS & DIALS
UNION SPECIAL SEAMERS
NEEDLES FOR EXPORT

C. M. FRENCH
Commercial Trust Bldg. — Philadelphia 2, Pa.

FOR SALE

BUTTERWORTH CALENDAR

7 ROLLS—80" FACE

3 Composition Rolls, 4 Steel Rolls, Hydraulic lift —water-cooled journals. Located in South.

AMES BAG CO.
10 EAST 40TH ST. — NEW YORK CITY

FOR SALE

20—DRAPER MODEL—E-LOOMS

New Midget Feelers—Stop Motions—Beam Side Plates, etc., in orig. boxes. Also assorted extra parts for weaving cloth 32 inches wide.

11—STAFFORD Automatic Looms—12 Harness with Dobbies. These Looms are in good condition.

A-A-A- DELUXE WEAVERS
4907 NORTH BERNARD STREET
Chicago 25, Illinois • Phone Keystone 6175

- Printing Machines
- Dry Cans
- Calenders
- Quetches
- Extractors
- Tentering Frames
- Beamers & Tubers
- Doubling & Folding

Looms—Warpers—Winders—#90 & #50 Universals
Ribbon Machinery & Equipment

A. & M. BLANK CO., INC.
49 STATE ST. — PATERSON, N. J.
Sherwood 2-1367 — Lambert 3-9523

GARNETT MACHINE

One Single Cylinder

30 x 60 double fancy garnett, main cylinder, doffer and lickerin ball bearing, and Harwood self feed.

DOYLE & MILLER
6600 Baltimore Avenue — Fernwood, Pa.

More FOR YOUR MONEY...

THAT'S WHY INDUSTRY CALLS FOR USED MACHINERY FROM

"CONSOLIDATED"

TO SAVE *MONTHS* ON MACHINERY DELIVERIES
AND TO GET *MAXIMUM* QUALITY AND VALUE

What have you to SELL?

Send us your list TODAY!

EXTRACTORS

4—K & G & Burkhardt 60" Extractors, rubber baskets.
1—Hercules 48" Extractor, copper basket.
3—26" & 30" Hercules Extractors.
1—Fletcher 48" whirlwind Extractor.

DYEING MACHINES

1—Obermaier Yarns Dyer.
5—K & W & Giles Skein Dyers.
2—Buhlman 100-arm skein dyers.
2—Haveg Totally enclosed Dye Becks.
3—Rotary 2 & 3 Comp. Monel Dyers.
12—Franklin Cast Iron Pkg. Dyers, 6-600#.

DRYERS

3—P & S & National Loop Dryers.
1—P & S Raw Stock Dryer, automatic feed.
3—Skein Truck Dryers.
1—V. V. 5-section Net Dryer, complete with fans.
1—Pin Tenter Dryer, 64".
1—Riggs & Lombard Cloth Dryer.
2—P & S Hurricane Dryers.
2—3-Apron Conveyor Dryers.
1—Hurricane Wool Dryer.

NAPPERS

2—D & F Single Acting Nappers, 60" & 84".
3—Gessner & Woonsocket S. A. Nappers, 84"-90".
2—Woonsocket 86" 20-roll S.A. B.B. Nappers.
1—Woonsocket 86" 24-roll D.A. B.B. Nappers.

TENTER FRAMES

2—Textile Fin. & Butterworth Tenters, top opening, clips, 60' & 90'
1—Heathcote Pin Tenters, 30'-50" wd.
1—Van Vlaanderen 30'-63" Tenter, complete

PALMERS-PALMER QUETCH UNITS

2—Butterworth & Textile 60" & 80" Palmers.
1—V.V. 88" Palmer Quetch Unit.
2—V.V. & G.M.C. 60" Palmerettes.

PADDERS - MANGLES - QUETCHES

1—V.V. 60" 2-roll Dye Padder, rubber rolls.
2—2-roll Padders, 94" & 98".
2—Butterworth 50" Starch Mangles.
3—Butterworth & Morrison 2 & 3-roll Quetches, 50"-72".

BEAMERS - BATCHERS

5—Textile 50", 60", 66" & 72".
4—2-Roll B.B. Batchers, 50"-72".

FLAT FOLDERS—DOUBLERS

2—E & H Flat Folders, 50"-60", with motors.
3—P & W & Windle Doublers, 50"-65".
1—96" Doubler & Folding machine.

COATING MACHINES

3—Plastic & Rubber Coaters, 50"-72".

DECATERS

1—P & W 72" Full Decater.
1—P & W 72" Semi-Decater.

WASHERS

1—V.V. 6-comp. full width Washer, 60".
1—V.V. 8-comp. full width Washer, 50".
1—3-comp. monel rotary Washer.
2—Cloth Washers, 4 string

BRUSHING MACHINES

2—74" Rotary Cloth Brushers

CALENDERS

1—V.V. 3-Roll Calender, 62".
1—Farrell 3-roll Calender, 65".
1—Perkins 2-Roll Hydraulic 65" Calender.

SHEARS

3—P & W 2 Blade Shears, 66½".
1—P & W Single Blade Shear, 60'.

1—Van Vlaanderen 4-roll Calendar, 60" 2 steel, 2 comp, rolls, new. Unit complete with drive and motor.

DYE BECKS—DYE JIGGS

1—Butterworth Scouring Jigg.
10—Morrison & V.V. 6'-12' Dye Becks, S.S. lined.
4—Textile 50"-60" S.S. Lined Jiggs

PRINT MACHINES

1—R.B.&F. 4-color Print machine, 42".
1—10-color ribbon printing machine, complete with mandrels and rollers.
1—Rice, Barton & Fales Single Color Printer.

TUBERS & MEASURING MACHINES

3—Tubing & Measuring Machines, 50"-60".

WEAVING MACHINES

150—C & K 4 x 1 automatic, 47½", looms.
100—Draper Mod. D. auto. looms, 40", motor driven.
8—C & K 72" 4 x 4 Jacquard Looms.

KNITTING MACHINES

Lot of Hosiery Knitting Machines.
25—Cooper Spring Needle Machines.

PRINT MACHINE EQUIPMENT

BTA & BTS motors, 25, 35 & 50 HP, mandrels, star gears, doctors blades.

AGERS

2—Butterworth Cast Iron Agers, 18' long.

PREPARATORY MACHINES

2—Sargent & C & M Burr Pickers.
4—Shoddy Rag Pickers.
1—Saco Lowell Vertical Opener.
1—Sargent Cotton Picker.
1—Schofield Large Rag Picker.

CARDING MACHINES

15—Sets D & F Worsted Cards, 48" x 48".
4—Bramwell & Harwood Feeds, 48"-60".
8—Whitin D-2 Combers.
5—Hetherington Sliver & Ribbon Lap Machines.
2—5-cylinder 48" x 48" Shoddy Cards, equipped with Bramwell Feeds and Metallic breasts.

SPINNING & WINDING MACHINES

35—Whitin & Mason Spinning Frames, Band & Tape Drive.
15—H&B Drawing Frames, 12" coilers.
6—Platt Worsted Mules.
1—Sipp Double Deck Winder.
1—P.S. Ring Twister, 5" band drive.
1—Fly Twister, 6½" Traverse, 4¼" dia.
2—Foster #101 Cone Winders.
8—Atwood 5-B Twisters
12—Universal #50 &#90 Winders.
2—Sipp 72" Warpers.
4—Jack Spoolers, complete with creels.
7—H & B Speeders, 5" baube.

SINGER

1—Curtis & Marble 2-Burner 64" Singeing machine.

BUTTON BREAKER

1—Van Vlaanderen 50" Button Breaker.

"AMERICA'S BEST BUYERS" WANT YOUR IDLE EQUIPMENT

SINGLE ITEMS TO COMPLETE PLANTS

SEND YOUR LIST NOW

THE KEY TO SAVING TIME AND MONEY

CONSOLIDATED PRODUCTS COMPANY, INC.

FOR OVER A QUARTER CENTURY A SYMBOL OF CONFIDENCE

Address All Textile Inquiries to

TEXTILE DIVISION, PATERSON 2, N. J.
33-41 BERGEN ST. Tel. ARmory 4-6540

15 PARK ROW • NEW YORK CITY 7 • N. Y.

AGER, STEEL, 30'x50"
AGER, wood, acid
AGER, Stainless steel Acid
AGER, Tower, New
AGITATOR, Porter Whirl Pool
BEAMER, 60" Van Vlaanderen
BUTTON BREAKERS, VV 50" & 70"
CALENDAR, 4 roll 50" Hydraulic
CALENDAR, 3 roll 44" lever pressure
CALENDAR, 3 roll, 20" Morrison
DRY CANS, 12 copper 50" x 28" vert.
DRYER, Loop P &S 30' x 84"
DRYERS, Single & Double Truck
DRYERS, Kenyon & Heathcote, 6 tier
DYE BECKS, stainless steel 4' to 20' New
DYE TUBS, wood 6'-4'-12' comp. motorized
DYEING MACHINES, Smith Drum Paddle type
DYEING MACHINE, Smith Drum, Pocket type
DYEING MACHINE, Smith Drum 60 arm
EXTRACTORS, Beam 50" & 60" BB
EXTRACTORS, Open Top Tolhurst 40"
EXTRACTOR, VV Copper basket 54"
EXTRACTOR, VV Copper basket 48"
EXTRACTOR, VV Rubber basket, 60"
FANS, exhaust 3 blade propeller 30", 36"-48"
FLOCK STENCIL MACHINES, with patterns
FIAT FOLDERS, Elliott & Hall adjustable
FULLING MILLS, Hunter #10
INFRA RED units complete with blowers
INSPECTION TABLES, with DC motors, 47"
JIGGS, monel lined 60", st.st. 50" & 60"
MEASURING MACHINE, P & W Model AWC
MOTORS, BTA 7½ HP-30 HP
MOTORS, over 300 GE ¾ to 5 HP 220 volt
OVEN, equipped with Maxon heaters
PAD, 2 roll Hydraulic
PALMER, 62"
PALMER QUETCH, 54" Butterworth
PALMERETTE, 60" face, General Machine
PLEATER, K & G
PRINT MACHINE, 10" sample or Ribbon
QUETCH, 2 roll VV 50" & 60" ball bearing
QUETCH, 3 roll Morrison 60" ball bearing
SEWING MACHINES, Arlington, Bicycle
SEWING MACHINES, Merrows 60ABB & 60D3B
SHEAR, Hermas, 4 knife 70" wide
SLITTER, Cammeron, 72"
SQUEEZE ROLLS, 12" x 10"
TENTER FRAME, W&J 90'x51" wide
TENTER FRAME, VV 55'x60" wide
TENTER FRAME, VV 40'x60" wide
TENTER FRAME, PIN, W & J, 30'x220" wide
TIGERS, Dry P & W & C & M
TUBER, with examining board 80"
TUBERS, Paterson variable speed motors
TUBER, VV with doubling attachment
WARP COMPRESSOR CREEL
WASHER, open 4 compartment, 60" wide
WASHERS, Slop, New, stainless steel
WASHER, GL Rope type steel & Wood
WASHER, 3 compartment open
WOOL WASHERS, J. Hunter 6 and 8 ft.
WATER SOFTENER & FILTERS

We are prepared to help you in disposing of or acquiring both complete plants and individual machines. Your inquiries cordially invited.

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Sherwood 2-6577

53—Whitin Band Drive Spinning Frames—3" Gauge—240 Spindles each—Metallic Thread Guides.
1—Hydrolite Machine
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3000—Tape Drive Twister Spindles.
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3—Saco Lowell Vertical Openers With Grid Bars.
5—Beam Warpers With Adjustable Creels.
1—Minic All Steel Motor Driven Baling Press—Suitable for Paper or Waste.
50,000—9" Medium Whitin Warp Bobbins.

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2—72" Textile New Beamers, V-Belt Drives, 2 H.P. Motor, 3 Phase, 220 Volts.

4—Textile Dye Jiggs, 50" wide Stainless Steel Lined.

2—72" Dye Padder, Bottom Hard Roll, Top Soft Rubber Roll, Stainless Color Pan, Motor Driven.

1—90" Dye Padder, 2—Rubber Rolls, Stainless Color Pan, Motor Driven.

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Stainless Steel Dye Boxes, 4'—6'—8'—10', Fully Complete with Motors attached.
New—Coating Machines, 60" fully complete, Vari-Speed Drives with motors.

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2—J. E. Windle Doubling & Folding Machines
1—Kettling & Braun Full Decating Machine, 60" wide
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12—2600 Hook Halton Jacquards
1—Gessner "Century" type press, 66"
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1—80 Spindle Foster Model 101 Coner—4" and 6" Cams
1—84" D.A. Woonsocket Napper

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#50's and #90's, rebuilt to order.

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2—32 spindle Fairbairn Twine Polishing Machines
1—Silver & Gay 6 Spindle 8" Pitch Balling Machine
3—North Chesterton Machine Co. Ball Winders 12 Spindle each

Robert Solomon & Co., Inc.
Dealers in Textile Equipment
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63—Draper 30" Model E used looms in good condition. Complete with Lacey top motions, pulleys, shafting, beams, etc. Located in South.

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9 CARDS PLATT BROS.

1—Single Cylinder Breaker 60 x 50

2 Cylinder Finisher 60 x 50 Garnett Breast

5—2 Cylinder Breaker 60 x 50
2 Cylinder Finishers 48 x 50

1—2 cylinder Breakers 60 x 50
2 cylinder Finishers 60 x 50

2—2 cylinder Breakers 48 x 50
2 cylinder Finishers 48 x 50

Iron cylinders, ring condenser, 2 spools, 24 ends each, Apperly Feeds, Barker Condensers.

10 Platt mules 336 Spindles each 2" gauge

1—36" Burr Picker with automatic feed

1—36" Dobson & Barlow Cotton Bale Breaker with fan.

1—Davis & Furber 42" Mixing Picker-Apron feed

7—Prince-Smith Cap Spinning Frames 136 spindles each

6—Prince-Smith Cap Spinning Frames 144 spindles each

All 3½" gauge-tape drive

13—Prince-Smith Ring Twisters 144 Spindles each 3¾" gauge

3—Foster Cheese Winders 50 spindles each

240/300 Spindles #90 Universal filling winders.

6—Davis & Furber Jack Spoolers with creels.

COMPLETE RAYON FINISHING PLANT

2—Van Vlaanderen 50" Stainless Steel Tnsionless Dye Jiggs, motor driven

1—Butterworth 50" Stainless Steel Dye Jigg, Motor driven

2—Textile 54" Dye Jiggs, stone-lined, motor driven

1—Textile stainless steel Can Dryer, consisting of six stainless steel cans, 27" Dia., 50" face, Reeves variable speed transmission

1—Palmer Finishing machine, 66" Staybolted Cylinder, 52" Dia., small cylinder 15" Dia., complete with blanket, motor driven

1—Van Vlaanderen 54", 2 roll Quetch, Ball Bearing, with rubber covered rolls, Copper Steam Heated Trough

1—Butterworth 64" Tenter Frame, 30' long, Top opening clips, complete with Reeves Variable Speed Transmission

1—Gessner 70" Semi-Decator, 30" Dia. cylinder, complete with blanket and vacuum pump

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1—56" Examining & Measuring machine

Autoclave, Blocks, Button Breakers, Calendars, Dry Cans, Hoey Chain, Dryers, Can, Loop, Conveyor, Tenter Frames, Kettles, Pebble Mills, Enamles Pans, Pantograph Engraving, Pumps, D.C. Motors, Padding Machine, Quetch, Pebbles, Rolls, Tanks, Water Softening Unit, Water Filters

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LOOMS AND WINDERS

3—Crompton & Knowles 96½ Harness Cam 1x1 Box Cord Fabric Looms—Non-automatic
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1—99" Draper—Automatic
2—Bobbin Winders

This equipment is in good working condition and may be seen set up.

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A lot of men's & women's forms for boarding made by Jos. Pearsons.
Large lot of Latch Knitting needles, long and short shanks.
1—Fairbanks 14' platform scales.

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"4 Stafford Automatics, with Hopper Type Magazine, 89" Reed Space, Intermediate Head Motion equipped with Multipliers, Individual Drives. All parts, Harness, Reeds to go with Looms. Apply

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Scranton Reeler, 8 flyers, excellent running condition, complete with motor—$750.00. Principals only.

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30 Lynch St.
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EV 8-9115

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1—148 Spindle Prince-Smith
2—¾" Band Drive Twister

FS-578, Textile World
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FOR SALE

One Curtis & Marble Single Cutter Shear, Motor or Belt Drive, width 66½ inches, will take 5 H.P. Motor.

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14 and 16" BEDS.

Write to
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PARTIAL LIST

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1—CURTIS & MARBLE VERTICAL BRUSH, ball bearing rolls, 62"
5—BRUSHING MACHINES, 48" to 100"
1—McCREERY BRUSH, 2 roll, 54"
3—CALENDERS, 5 roll, 39" to 50"
2—CALENDERS, HYDRAULIC, 7 roll, 80"
1—CALENDER, 3 roll, 20" used on narrow fabric
1—CALENDER, EMBOSSING, 50"
1—DEWING & DAMPENING MACHINE, 63"
7 DOUBLING, FOLDING & MEASURING UNITS, 40" to 60"
1—BACKWASHER DRYER, 9 cylinder, with 3 fans
1—PIN TENTED DRYER, 10 yard, with housing, blower
1—LOOP DRYER, folder takeoff, 2 fans, 50"
1—COMBINATION KNIT GOODS DRUM DRYER & CARBONIZING MACHINE
1—DRYER, CLOTH & BLANKET, 80"
2—DRY TUBES & HEADS, RAYON, with aluminum baskets
1—SKEIN TRUCK DRYER FOR 2 TRUCKS
2—DRYERS, RAW STOCK, with hopper feed & housing, 350 lb. capacity
3—DYEING UNITS, RAW STOCK, 350, 500 & 1000 lb. capacity
8—DYEING UNITS, SKEIN, various types
15—EXTRACTORS, VARIOUS TYPES, 30" to 60" baskets
5—FOLDERS, CLOTH, 36" to 50", 1 yd. to 1½ yds. folds
1—PR. GUIDERS, with stands, 72"
6—MANGLES, 3 roll, 42", 54", 66"
1—MEASURING MACHINE, with motor & clock, 80"
15—NAPPERS, 20 roll knit goods, 24 roll double acting, 20 roll cotton, 80" & 90"
4—Nappers, McCreery, knit goods, 10 roll
4—NAPPERS, double acting, 36 roll, 56" to 90"
1—NAPPER, single acting, 14 roll, 80"
5—PRESSES, ROTARY STEAM, 66½"
1—QUETCH, 3 roll, 50"
1—SCUTCHER, vertical, 54"
13—SHEARS, SINGLE & DOUBLE BLADE, 40", 60", 66", & 80" wide, cotton & woolen types
2—TENTER FRAMES, CLAMP, 30' long, 58" wide
5—TUBING MACHINES, 50", 66", 70", 80"
5—WASHERS, HEMMER, 6'
1—BACKWASHER, revolving creel, 2 bowl

SPINING & WEAVING

8—BEAMERS, ENTWISTLE
1—BOBBIN CLEANER, ROVING, for 8"x4" & 10"x5" bobbins
1—BREAST, SMITH, 3 workers, 3 strippers, 16"x48"

NEAR 138TH STREET

2—CARDS, SHODDY, double cylinder, 48"x 60"
1—CARD, COTTON, SHODDY FINISHER, 49"x50"
1—SET CARDS, WOOLEN, 3 cylinder, 43"x48"
10—COMBERS, 10" Coilers, 10½" Lap
24—COMBERS, 8 laps and up, 115/8" width
2—CONDENSERS, RING RUB, 60" Cards
1—CONDITIONER, YARN
1—CONVEYOR, COTTON, motor controls & drives
1—CRUSHER, BURR, 7 roll, 28" long
1—DRAW BOX, 2 spindle
2—DRAWING-In MACHINES, stationary, for twine harness
1—DUSTER, RAG, 48" intermittent
3—FEEDS, CARD, APPERLY, for 60" Cards
5—FEED BOXES, BRAMWELL, 48", 60", 72"
6—FEEDS, INTERMEDIATE CAMEL BACK, 60" Cards
2—GARNETS, 4 Cylinder, 60"x30"
5—GILL BOXES, double can, doubel cam
2—INTERMEDIATES, 9"x4½", 84 & 114 spindle
2—LAP MACHINES, RIBBON, 10½"
2—LAP MACHINES, SLIVER, 9¾" & 9" Laps
52—LOOMS, HIGH SPEED SHUTTLELESS, for Elastic Webbs, tapes, etc.
63—LOOMS, AUTOMATIC, model "E" Lacey Tops, 30"
16—LOOMS, model "E" 43½"
2—LOOMS, C&K 4x4 Woolen, motor driven, 992"
6—LOOMS, C&K 4x4 Woolen, belt driven, 92"
24—LOOMS, STAFFORD, shuttle changing, motor driven, 56"
47—LOOMS, C&K, AUTOMATIC, 4x1, motor driven, 45"
1—MULE, D&F, 300 spindle, 2½" gauge
2—MULES, D&F, 240 spindle, 2" gauge
1—PICKER, MIXING, with Bates Feed, 36"
1—PICKER, BURR, DOUBLE CYLINDER, C&M PARKHURST, 48"x40" with Bramwell 48" Feed
1—PICKER, C&M BURR, with Bramwell metallic Knotwood feed, 24"x24"
1—PICKER, SHODDY, 18"x40" Feed Table
1—PICKER, WASTE, FRANKE, with feed table & Motor, 22"x30"
5—QUILLERS, 378 spindle, chain, 2½" gauge, 8" bobbin
4—QUILLERS, 378 spindle, chain, 2¼" gauge
1—Reeler, Skein, 72" skein collapsible
1—SHREDDER, CLARK, with feed table, 40"x24"
2—SLUBBERS, 68 spindle, 11"x5¼"
3—SPEEDERS, 160 & 144 spindle, 8"x3½"
10—SPINNING FRAMES, TAPE DRIVE, 216 spindle, 3" gauge
9—SPINNING FRAMES, 196, 204, 252 spindles, 3" gauge, 2" ring
2—SPINNING FRAMES, 252 spindle, 3" gauge, 2" ring
2—SPINNING FRAMES, 252 spindel, 3" gauge, 1¾" ring
4—SPOOLERS, WARP COMPRESSOR, 60 ends, 48"
10—SPOOLERS, 120 spindle, 5" gauge, 6" Spool
6—SPOOLERS, BACK WINDING, 48 ends, 40" Spool
2—SPOOLERS, EASTON & BURNHAM, 48 spindle, 7½" traverse
1—STRIPPER, VACUUM CARD
2—TWISTERS, 220 spindle, 2" ring, 3" gauge
1—TWISTER, 192 spindle, 2¼" ring
1—TWISTER, 128 spindle, 2" ring, 3" gauge
1—TWISTER, 120 spindle, 3¼" gauge, 2½" ring
4—WARPERS, ENTWISTLE, 54"
2—WARPERS, DRAPER, 54"
1—Warper, Pin, with Tracks, 79"
1—WARPER, PINLESS TYPE, 84"
1—WARPER, ENTWISTLE BALL
8—WINDERS, OSWALD LEVER, bottle bobbin
4—WINDERS, FOSTER, 100 spindle
1—TUBER, UNIVERSAL, 20 spindle, 6"
3—WINDERS, 24 spindle, 18" spools
2—WINDERS, COP, LINDSAY HYDE, 24 spindle
1—WINDER, SIPP, 70 spindle
4—WINDERS, LESSONA
14—WINDERS, #90, 20 spindle

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Tel.: MElrose 5-1772

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One **TENTER** for 72″ goods, 60 to 90 ft. long, top opening clips, brass o.k., preferably with housing

One 76″ to 80″ plain rolling **CALENDAR,** three roll, husk-steel-husk, total pressure about 9 tons

24 to 32 **COPPER CANS** 23″ diameter, 76″ to 80″ face, vertical or horizontal arrangement

One **2 ROLL QUETCH,** 76″ to 80″ face, like Van Vlaanderen standard 2 roll quetch

Three **DYE JIGGS,** 76″ beams, st. steel tubs, or wood lined with stainless steel, copper, or monel; preferably individually motor driven

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Two 76″ **BEAMERS,** variable speed, solid construction

Three **ROPE FORM WASHERS,** cypress tubs 30″ deep, 12 ft. front to back, with four longitudinal compartments 36″ wide and over-flow partition at front; driven oval reel at back, free running reel or tube at front; delivery reel driven by belt from oval reel back of right hand compartment; motor driven.

Electric current available 220 v 3 ph 60 cycle.

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WAPPINGERS FALLS, N. Y.

WANTED

(Additional Wanted Ads on Page 290)

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WOOLLEN MULES
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All Metal
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COMBS, CARDS and ROVINGS
for Bradford Spinning System.
ROSENTHAL EXPORT CO.
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DUBIED, SEIFERT & DONNER and GROSSER widening machines
6, 7 and 8 gauge. *Write to*
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In good condition or small or medium sized complete woolen spinning plant.
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1—Cop Winder
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WANTED
Four 10x5 Long Draft Slubbers
Prefer minimum 90 spindles, not more than 108 spindles, prompt delivery.
ATLANTA WOOLEN MILLS CORP.
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ONE NEW OR USED
FLAX, HEMP, OR LONG FIBER
HACKLE
with or without Gilling Delivery Section.
W-579, Textile World
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WANTED
COTTON SPINNING PLANTS
immediate delivery for export: three complete cotton spinning plants, 4000-16000 spindles.
W-586, Textile World
330 West 42nd St., New York 18, N. Y.

WANTED
Complete Machine 3000 to 5000 spindles to make cotton thread, #8 to 36
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Open to purchase flat full-fashioned machines suitable for underwear or sweaters.
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330 West 42nd St., New York 18, N. Y.

WANTED
400 or 500 pound Monel or Stainless Steel
Package Dyeing Machine
NATIONAL DYE WORKS
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received by April 1st appear in the April issue, subject to limitations of space available.
Address copy to the Departmental Staff
TEXTILE WORLD
330 West 42nd St., New York 18, N. Y.

WANTED
For Bradford Spinning System
GILL BOXES, 4, 6 and 8 SPINDLES, FINISHERS and REDUCERS.
ROSENTHAL EXPORT CO.
530 Broadway New York 12, N. Y.

PATERSON SILK OFFERS

200 Crompton & Knowles Automatic Looms 4 x 1 with 20 harness dobbies to weave 40" goods

60—Fletcher double deck spinners, 64 spindles each deck or 128 spindles to the machine. Each deck individually motor driven by a 3 HP motor. 7" center to center spacing. 5" Cork covered take up rollers.

8—Ribbon looms with dobbies, 15' 6" with double set of battens, one set for making Boucle fringe, the other set of battens for regular ribbon work.

24—Crompton & Knowles 4 x 4 48" Jacquard looms

30—Crompton & Knowles 2 x 2 48" Jacquard looms

Above looms complete with paperless beams, electric warp stop motion, pick counter, individually motor driven, extended bottom shafts for double lift Jacquards.

96—Crompton & Knowles 600 hook double lift Jacquard machines

200—#90 Universal quillers or coppers, with or without bunch builders belt driven or motor driven.

Foster winders #12 and #30

Sipp or Atwood winders to wind from skein to spool

Sipp or Eastwood warpers and creels

50—45" reed space, Draper automatic looms, 2 harness, roller motion, gooseneck cutters, Roper let-offs, positive feelers, worm take ups.

23—75½" reed space Stafford automatic bobbin change looms, 2 harness roller top, ratchet take up, friction let-offs, positive feelers.

PATERSON
SILK MACHINERY EXCHANGE

24 Spruce St., Paterson, N. J. **Sherwood 2-1363-4-5-6**

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AMPLE SOFT WATER

99.98 *Per Cent Pure*

Close to the great markets of the south, midwest and Latin-America and immediately adjacent to cotton and ramie producing areas, Pensacola offers many important advantages of textile manufacturers seeking new locations.

Ranking high among these advantages are an ample supply of pure soft water . . . low plant construction and maintenance costs resulting from the agreeable year-round climate . . . low taxes . . . a magnificent harbor with coastal and international steamship service and barge transportation . . . two railroads with terminal facilities . . . a major airline . . . and cooperative labor.

Write today and let us tell you specifically what Pensacola has to offer textile manufacturers.

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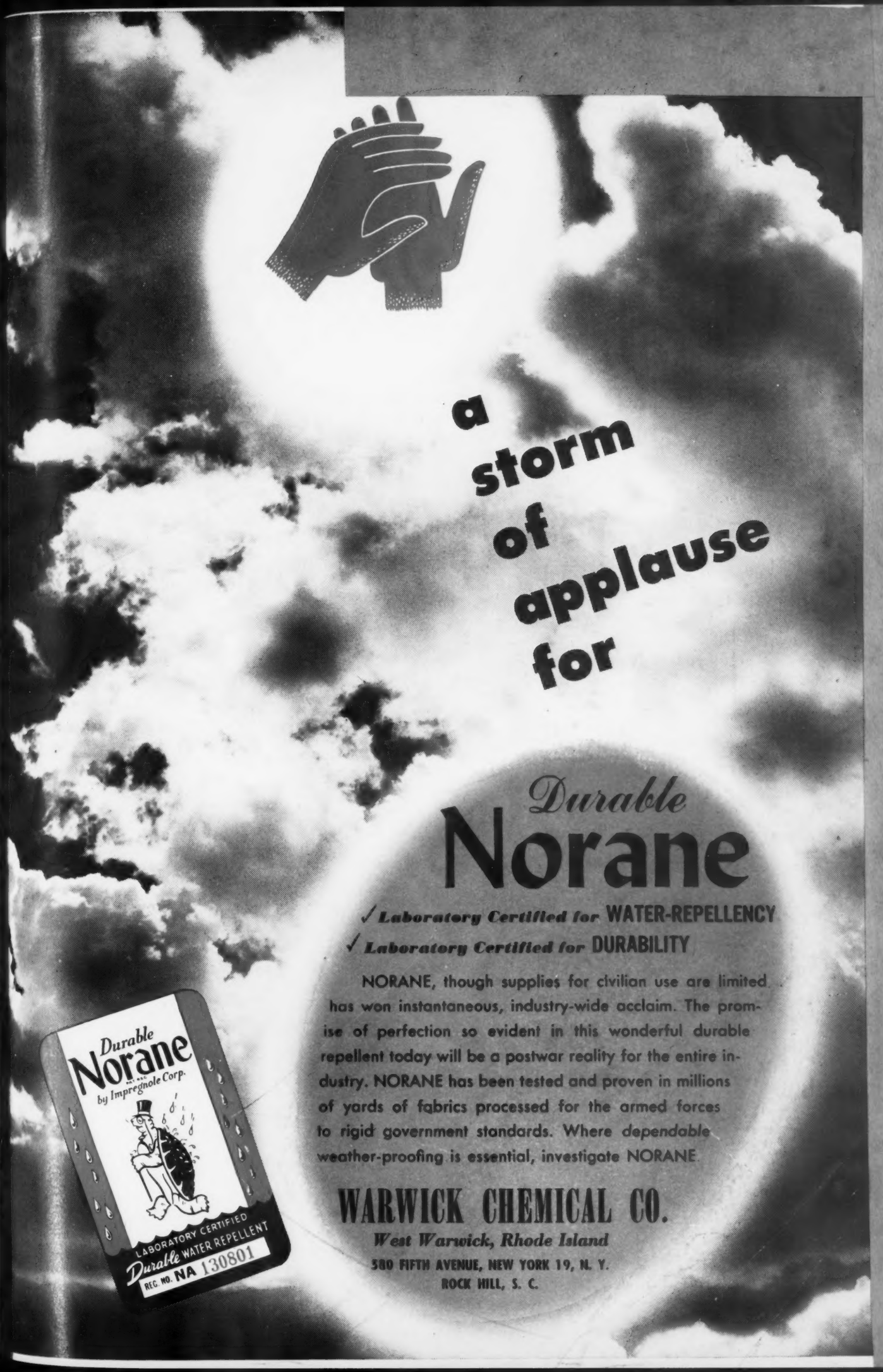
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